



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

In this newsletter we provide an update on a range of recent projects, including:

- **FMG Eliwana Project**, a new Iron Ore mine using our range of samplers and feeders.
- We provide a summary of thirteen new gravity recovery projects under development, including three each with **Ma'Aden** and **Altynalmas**.
- There is an update on the **Goldfields Tarkwa** installation, which continues to exceed expectations with a gravity circuit expansion.
- One of the worlds most talked about gold mines, **Kirkland Lake's Fosterville Gold Mine**, is highlighted.
- We look back at the **Resolute Mining Syama Project**, where a complete standalone gravity tower was retrofitted to the existing plant.
- We report on the successful commissioning of the **Subiaco Wastewater** treatment plants Dissolved Air Flotation (DAF) unit.
- **SA Waters Bolivar** Water Recycling Project is completed with the installation of the 8<sup>th</sup> and final clarifier.
- The Consep Hoist continues its successful run in Melbourne with a series of projects, including the **Ritz Carlton** project.

## A note from the editor

The year 2020 was set to be a big milestone year for reaching our 30 year anniversary, but events of the year have taken a very different course. The mining, construction and water treatment industries have largely remained open for business as usual, and we were granted 'critical industry' status for these industries allowing us to remain fully operational. Despite the challenges, we are well aware of how fortunate we have been in comparison to most.

From a new business perspective, 2020 has been very strong, with a number of new projects in the sampling, gravity gold and construction sector being implemented.

As a result we have been expanding our staffing resources and our manufacturing facilities. Consep has made a number of new investments, including a new 6-axis water cooled robotic welding machine, a new and expanded surface treatment workshop and specialised jiggling tables.

We have also expanded our R&D team, which will allow accelerated product development time for our equipment range.

We want to take this opportunity to thank our customers for their 30 years of support. Consep has grown from a backyard startup in 1990 to a globally recognised company with our own range of products and services, and over 150 staff located in facilities in Sydney, Perth, Vancouver, Kirkland Lake and Toronto. We couldn't have reached our 30 year milestone without the amazing group of customers who have chosen to use our equipment and have joined us on our journey.

Thank you!

Barrie Watson



# Proven Gravity Solutions for the World's Gold Industry

Consep's packaged gravity solutions provide customers with the ability to purchase a complete standalone gravity gold recovery tower, including the design and complete equipment package

Our recent clients for packages include Ma'Aden Sukhaybarat, Mahad Ad Dhahab and Mansourah & Massarah Projects; Altynalmas Bestobe, Aksu and Dolinnoye Projects; Mako San Albino, Pure Gold Madsen, Arlan Pavlik, Highland Gold Kekura, Capricorn Karlawinda, Saracen Carosue Dam Expansion and AngloGold Ashanti Mina Córrego do Sitio, just to name a few.

We are rapidly approaching 200 customers around the world that use the proven combination of the Knelson Concentrator and Consep Acacia in their plants.

We have a 30 year long history in the design and supply of gravity circuits. Consep has the unique advantage in that we have the complete offering available under our own roof, including:

1. Process design, including GRG test work, predictive modelling, mass balances, PFD's, P&IDs, process narratives and ultimately functional descriptions & automation design.
2. Mechanical design, including structure, piping and chute work design.
3. Supply of the full equipment package.

Consep designs and manufactures the complete range of equipment needed for the gravity circuit, including the Consep Acacia and Electrowinning package, Knelson Concentrator and Consep SDS Gravity Feed screen.

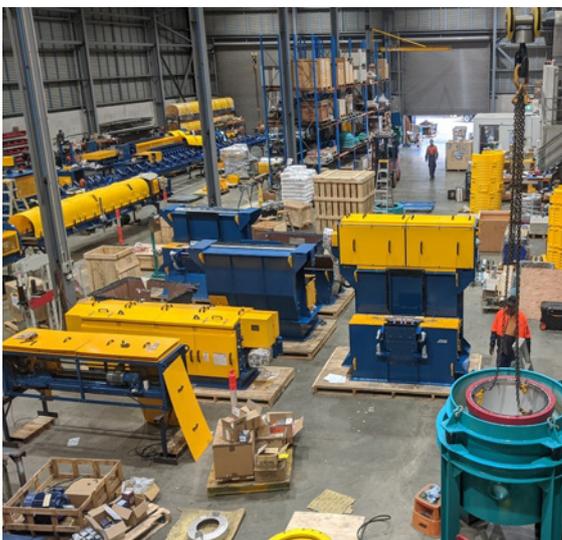
For Mining Companies who are looking for a complete supply of the gravity circuit, we can offer that solution. For our engineering company clients, we offer a package of proprietary equipment that simplifies their design, interfacing and procurement processes.

Most importantly, for the end user mine site, this complete package supply provides a single source for support and service for the gravity circuit for the life of the mine.



## FMG Eliwana chooses Consep's Sampling Technology

Consep is pleased to announce that we have been awarded the sampling stations for the FMG Eliwana Project in Western Australia. Consep provides a genuinely unique offering to the world's bulk commodity industries with our range of in-house developed technology.



FMG recently announced that businesses across Australia have benefitted from A\$1 billion in contracts awarded as part of their Eliwana Mine and Rail Project. Consep is an Australian sampling equipment engineer, with the complete package of equipment supplied to Eliwana designed, manufactured and tested under our own roof in Australia.

Consep is supplying the complete equipment package for two ISO3082 compliant sampling stations, including both the Product Sampling Station, and the Train Load Out (TLO) Sample Station.

The Product Sampling Station utilises a package of a belt drive primary sampler, primary belt feeder, linear

secondary sampler, rotary collector, rejects conveyer and all chute work.

The TLO sample station includes a belt drive primary sampler, primary belt feeder, primary transfer conveyer, linear secondary sampler, tertiary feeder, linear tertiary sampler, rotary collector and all chute work.

From a sampling perspective, there has been a major shift in the Iron Ore industry in the past 20 years, including the shift to below water table ores, the use of wet ore processing facilities, increasing safety and isolation requirements, and the ever increasing focus on production. This has created the need for change in sampling and feeding equipment design, and Consep has remained committed to the R&D needed to meet the industry's needs.



# South Australian Water invests in Consep Clarifiers

Recently, the eighth and final clarifier mechanism supplied to Bolivar WWTP in South Australia was commissioned, marking the culmination of a multi-year waste water project.

In 2016 Consep worked with South Australian contractor Waternish to develop a custom 40m clarifier for the Bolivar Waste Water Treatment Plant.

The clarifier mechanism, which employed high grade materials of construction, drew on proven WesTech design elements and was custom engineered to fit into an existing clarifier basin to achieve the required process requirements for the project. The goal was to replace both aging equipment, and also improve the performance of the plant. The successful installation led to the

supply of a further seven units as part of a long term replacement program as it was recognised that the upgrade of the clarifiers would significantly improve the overall plant performance and water quality.

Bolivar WWTP, as South Australia's largest treatment plant, is a critical asset for producing recycled water for use in and around Adelaide. The upgraded clarifiers will ensure that the quality & volume of recycled water is achieved so that it can be safely used for many purposes including irrigation, washing cars and flushing toilets.



# Kirkland Lake Fosterville Upgrades Plant with Consep

The Kirkland Lake Gold Fosterville Project achieves very high recovery with the installation of Consep's wide range of equipment, which was commissioned in 2019.



Kirkland Lake's Fosterville Gold mine is located near the township of Bendigo and is currently the largest gold producer in Victoria, Australia. It is an underground gold mine with the process plant operating a gravity, flotation, CIL and BIOX circuit.

They had a strong performance in Q1 2020 extracting an enormous 160,000oz at an average grade of 42.4g/t Au, making it one of the highest-grade gold deposits in the world. With the recent upgrades to the mill and expansion of their underground operation, they are looking to ramp up

production in the coming years, expecting to be more than 500,000 oz this year.

Consep has assisted with the upgrade in recent years, supplying a wide range of Consep products including seven Sampling stations, one Trash Screen, one Gravity Feed Screen, three Knelson Concentrators and four Electrowinning Cells.

The commissioning of the sampling stations in late 2019, has allowed site to further improve metallurgical accounting across the different streams.

# Tarkwa Mine Gravity Circuit Optimisation

The installation of a Consep supplied gravity circuit at Tarkwa Mine in 2018 achieved an improvement in overall plant gold recovery. A collaborative approach has allowed the optimisation of the gravity circuit with its performance maximised.

Gold Fields Ghana's Tarkwa Mine is situated 4km west of the town of Tarkwa, which is approximately 300km west of Accra, Ghana's capital.

The gravity circuit consists of a gravity feed screen, three QS48 Knelson Concentrators, a CS6000 Consep Acacia and Electrowinning Module with Consep cell. The three Knelson Concentrators purge consecutively to produce concentrate for a daily operation of the Consep Acacia. The benefits for the gravity circuit installation exceeded expectations, and this included:

- Improved metal accounting and grade reconciliation
- Reduced CIL reagent consumption: cyanide went from 320 to 230g/t (saving 1215t of NaCN per annum); caustic from 2200 to 1700kg per elution; hydrochloric acid from 810 to 600 kg per elution; and activated carbon from 40 to 35g/t.

- Overall plant gold recovery improved from 96.6% to 97.2% (a 0.6% increase) with residue losses reduced from 0.040g/t Au to 0.034g/t Au.

The reduction in operation costs and increased gold recovery has yielded a healthy return on investment.

The efficiency of the gravity circuit gave Tarkwa the opportunity to decrease Knelson Concentrators' cycle time to commence two batches per day through the Consep Acacia.

Consep's collaboration with Gold Fields and Gold Fields Ghana metallurgy teams to conduct test work and circuit modelling to further optimise the gravity circuit produced technical paper "Benefits Realised from Retrofitting a Gravity Gold Recovery Circuit". The paper was presented in AusIMM Metplant Conference (2019) in Western Australia.



# Syama Gold Mine's Success with Consep

**Resolute operates two processing plants at Syama, Mali. The first plant is a sulphide processing circuit while the second, an oxide plant, is a more conventional crushing-milling-leaching circuit.**

Resolute Mining moved forward with installation of Consep's gravity circuit for the anticipation of higher coarse gold fraction in the Tabakoroni oxide deposit. The Syama oxide plant delivered a record year of production in 2019 as a result of the consistent plant recoveries and high grade ore being sourced from the Tabakoroni deposit.

The Syama gravity circuit is designed to maximise gold recovery - utilising a complete package that includes a 1.8m x 3.7m SDS Vibrating Screen, a QS40 Knelson Concentrator and a Consep Acacia CS2000 Dissolution Module. Consep is proud to be part

of the success of Resolute in the Syama Oxide plant.

Rolling through 2020, the oxide plant continues to operate well with high recoveries achieved and total gold production up from the December 2019 Quarter. Mining progressed into more oxidised material in the Tabakoroni North Pits in early 2020. Significant stockpiles of over 3 million tonnes (Mt) of oxide ore at an average grade of 1.3g/t Au have been built up and will be processed throughout 2021 and 2022. Consep looks forward to continuing to support Resolute Syama.

## Consep Commissions its 12<sup>th</sup> DAF in Perth

**In June 2019, Consep successfully commissioned its 12<sup>th</sup> Dissolved Air Flotation Thickener for a municipal wastewater treatment plant in Western Australia.**

As part of the municipal plant upgrade, Consep designed and manufactured a 10 metre diameter DAF complete with recycle system. The single newly supplied DAF was sized to handle the total EAS feed of the two (2) existing DAFs which would enable the older DAF units to be taken offline for long overdue maintenance. Consep's team of wastewater technology engineers were involved through the project from initial process design, bench scale testing and commissioning of the installed DAF unit. The Consep supplied DAF unit was successfully able to achieve Thickened Excess Activated Sludge (TEAS) values above the required 4.5% with over 98% capture efficiency.

Consep's WesTech Dissolved Air Flotation (DAF) technology is used extensively in Western Australia, with our unique circular DAF technology now installed in eight different plants. Consep DAF units continue to perform well, typically producing thickened EAS concentrations of 3.5% - 5% with greater than 98% capture.

For 20 years Consep has offered a complete range of solid liquid separation equipment from US based industry leader WesTech.

Consep is proud of this partnership with WesTech, who have a name in the water industry synonymous with process expertise and quality equipment.



## Consep Hoist Arrives in Melbourne

**The Consep Hoist recently announced its arrival in the Melbourne construction market with two CH200 model hoists installed at the Ritz Carlton - Westside Place towers**

The Consep Hoists were modified to suit the projects needs and utilised by project formworker I&D Group for the construction of the massive 64 and 82 story towers in Melbourne's Docklands with ProBuild. The swift cycling of formwork, reliable transport of other construction materials and day zero access to poured slabs have seen faster cycle times and the reliance on the tower cranes reduced. The first of the towers has recently topped out at Level 64 with the second due for completion in late 2020.

The hugely encouraging response to Consep Hoists arrival at Westside Place was quickly followed by the installation of Consep Hoists at ICON built 480 Elizabeth Street project - a 52 level tower in Melbourne's CBD and more recently the Home Apartments project - a 60 level tower in Southbank also built by ICON.

In Sydney, the Consep Hoist has been busy in materials movement and formwork cycling in the construction of the Greenlands Centre project on Bathurst Street. The huge ProBuild built tower in the CBD is set to be Sydney's tallest residential building standing at 235m on completion in late 2020.

The flexible Consep Hoist has also been utilised on the Wynyard Place project built by Multiplex in Sydney's CBD.

With the Consep Hoist now established in the Melbourne construction market offering an improved method of materials transport and with continued use of Consep Hoists in Sydney for all manner of highrise builds there is some exciting times ahead.



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