

APPLICATION NOTE

BATCHING OF LIME IN GOLD EXTRACTION PROCESS BY WEIGHT

KONTROLS & INDUSTRIAL WEIGHING

Over the past 13 years we have executed a multitude of weighing, batching, filling and process measurement projects in such industries as; pharmaceuticals', chemical, metal detection, research laboratories, food, mining and defense.

EASY MAINTENANCE

Using European technology load cells and mounting kits. Ensures minimal attention and servicing

HIGH PRECISION WEIGHING

Accomplished by using the PR1713 in conjunction with software supplied by KIW



White Dam Gold Production joint in South Australia

Summary

White Dam Gold Production JV from South Australia inquired for a weighing system for their lime silo. Upon further investigation, KIW's team of engineers provided a cost effective, low maintenance and minimal management batching system.

Requirements

Lime is used extensively in the recovery of gold. Ores are combined with lime and a cyanide solution in a froth flotation bath to dissolve the gold while lime maintains the pH of the cyanide, keeping it in the liquid phase. If the pH level is not maintained above pH 12, the cyanide will release a toxic gas.

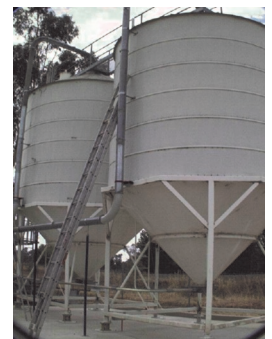
Therefore it is a crucial that the right amount of lime is added to the froth flotation in proportion to the other components, as loss of cyanide in solution will also reduce the efficiency of the froth flotation process.

The Solution

KIW engineers suggested a complete batching solution using tried and true standard weighing control equipment designed for batching applications. The alternative was to buy a basic weighing system from us, then use this information to perform the batching control either using a PLC in conjunction with custom software or hard wired logic.



(above) PR1713 Batch Controller fully programmable
(right) Typical bulk storage silos



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SERVICE CONTRACTS

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top priority

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customers or customers
requiring urgent attention
can call our Service
Engineers during
business hours

For further information please
feel free to contact our Team of
engineers and sales consultants

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Solution and Servicing Benefits



Silos and tanks at White Dam

This system directly controls the lime flow as well as sundry equipment, including lime silo activators, water pumps etc. Feedback signals into our controller ensures correct operation and monitoring of the entire process. Depending on how the reagents are packaged, the mine will design and construct the necessary equipment to safely dissolve the solid cyanide in a high pH solution. Our system was incorporated into this equipment at design stage or retrofitted into existing installations

Technology Used

- [PR6201 Canister Type load cell](#) Full stainless steel and IP68 ingress protection. Ideal for silo, tank weighing and weighbridges.
- [PR6001 Mounting Kit](#) Constrainer type design, to support the vessel without a load cell being present
- [Junction Box](#) Controller
- [PR1713 System Controller](#) with software Fully programmable with quick function keys and easy calibration

Further Processes

- Automated formulation the cyanide solution as well as the lime solution
- Batching (maintain feed rate) of the cyanide solution into the metallurgical process stream in proportion to the ore (dependent on ore properties
- Off- loading of bulk cyanide

SERVICES AVAILABLE

Technical Support

Installation and Setup

On-site support

Service Contracts

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