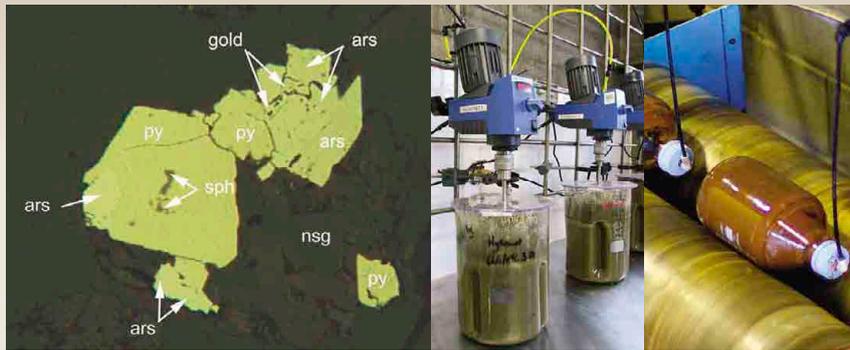
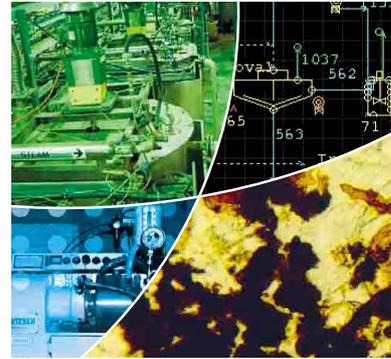




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News at hrltesting

September 2013



How to Run a Successful Gold Testwork Programme

If you were to ask this laboratory manager what has changed in the last 26 years in gold testwork programmes, I might be tempted to say very little. After all, gravity concentration, flotation and cyanide leaching processes are not difficult and so long as such testwork is completed to a high standard that's all that matters, right? Well not exactly – not if we're looking for the best outcome.

A rigid approach to a testwork programme can often lead to unnecessary tests being conducted, and still fail to solve the particular challenges of the project. While it's critical to design your programme around the known mineralogy of a sample, it's equally important to have an open mind and an open strategy so as data becomes available the testwork programme can be modified as necessary.

Likewise, allow a realistic time frame for this ongoing data review process to be carried out in a systematic manner. Time should also be allowed to evaluate anomalous results or unexpected outcomes such that further progress in the test programme is based on informed judgements. Ultimately none of these considerations will materially affect the cost of the service but will significantly improve the value of the service and confidence in the information presented. A little bit of collaborative consulting can make the difference between a project's success or failure.

Involving a process engineer or consultant to oversee the process can ensure the testwork programme is producing usable results. Monitoring the testing programme throughout the process is the best way to ensure the results are useful and can be translated into large scale processing.

At **hrltesting** we are committed to offering our full expertise throughout every programme to ensure the process is optimised to deliver the best possible outcome. Our relationship with Core Process Engineering (cpe.coreresources.com.au) means that we can supply the engineering insight to clients who don't have that facility in house. If you're looking for a partner that will work with you to give your testwork programme the best possible chance of success, then give us a call.



*Chris Casingena is the General Manager of **hrltesting**. Chris has over 26 years' experience in the gold mining and mineral processing testwork industry, and has worked in operations and laboratories throughout Australia.*

hrltesting introductions



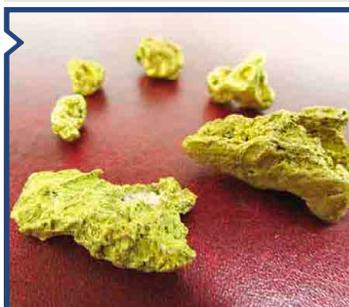
Optical Mineralogist, John Knights

John has developed his rare mineralogical skills over 30 years of mineralogical work at Mount Isa Mines, followed by 5 years with the MLA group at JK Tech. He now provides optical mineralogy services to clients through **hrltesting**. His particular skills lie in diagnosing process problems and opportunities from mill and flotation product samples. John's reports provide a wealth of mineralogical information about a sample, its component mineralogy, liberation/locking characteristics, complex composites, inclusion aspects, preferred mineral associations and a range of other mineralogical data.

John brings not just the ability to interpret the data arising from his image analyses, but an understanding of how the ore being examined can be extracted. He is a mineralogist who thinks like a metallurgist.

To view an example of **hrltesting's** mineralogy reports, visit: www.hrltesting.com/pdf/mineralogyreport.pdf

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World Gold 2013

Brisbane, 26–29th September, Come and see us at Booth 22.

hrltesting's facilities are just 10 minutes from the World Gold Conference venue in Brisbane. Take the opportunity to see **hrltesting** first hand on a free tour.

Contact David on dwalker@hrltesting.com for more information.

Did you know?

hrltesting offers a comprehensive range of metallurgical capabilities, with a complete range of testing equipment, for all aspects of extractive gold metallurgy.

View more of our capabilities at www.hrltesting.com or contact us at info@hrltesting.com





You want it done by WHEN? ... No worries!

We recently received a request for the urgent preparation of four tonnes of Nickel Laterite ore from three samples. No problem right? Except this programme was time critical and the samples needed to be on a plane to Europe within 12 days of the initial phone call.

One of the three samples arrived at hrltesting five days before deadline, and needed X-Ray sterilisation to pass import requirements before coming into Australia. The ore was received as bulk in 200 L drums, requiring separation, air drying, processing in our hammer mill, oven drying, and then rod milling to 75 µm.

Stuart Leary, the project manager, assigned extra resources to the project, with separation and air drying complete within 48 hours. Laboratory hammer milling, oven drying and rod

milling was then completed using extra shifts to provide a 24 hour, 7 day operation. Portions of the processed samples were then submitted for gamma radiation testing and blending with client-supplied oil to be tested as a furnace feed.

Some late Friday afternoon negotiations by Stuart with Quarantine and Transport contacts overcame a last minute hurdle at the airport, and all samples were shipped and received in Europe within the required time frame.

hrltesting has the laboratory facilities, team, and expertise to respond to urgent requests and deliver results. To find out more about how our facilities and capabilities might assist your project, contact us on info@hrltesting.com or (07) 3262 6207.

High Performance Liquid Chromatograph and ICP Laboratory

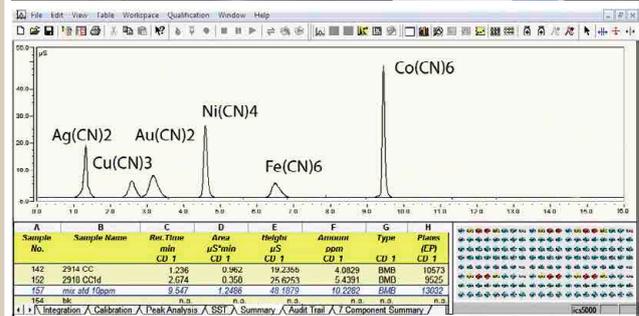
A recent hrlanalytical investment has been the purchase of a 'state of the art' High Performance Liquid Chromatograph (HPLC). This has been a strategic investment to match our requirements for method development work for novel processes. Usually found in universities and high-level research centres, the Dionex ICS 5000 is the most flexible, reproducibly stable and sensitive ion chromatography system available.

The instrument is a critical component of the laboratory's method development work, and was essential for the recent multi-million dollar development at hrltesting of the Toowong Process for arsenic removal from copper concentrates. Toowong Process solutions are typically exceptionally high in ionic strength, and hence a challenge for normal HPLC work. Highly robust and accurate methods were developed for analysis of arsenic species, arsenic thiols and sulphur species in Toowong Pilot Plant solutions, without manual dilution.

Cyanide-metal complex methods are also possible, to quantify WAD and SAD cyanide complexes in detox and cyanide leach solutions. Detailed and accurate characterisation of cyanide species in detox streams allows greater control and optimisation of these processes.

The HPLC has also further strengthened our capability to undertake halide and other anion analysis supporting our move into environmental sample analysis.

hrlanalytical has also recently built and commissioned an expanded ICP laboratory. With two new Agilent 730s, our existing Agilent 710 and AAS 55, hrlanalytical has vastly increased its capacity. Coupled with our in-house LIMS we can now offer our services to external clients with a total focus on turn around and quality.



hrltesting's in-house assay laboratory – hrlanalytical – now provides analytical assay services to external clients. If you are looking for 24 hour turn around, and a laboratory with the facilities to handle any technical challenge, contact us on 07 3262 6207 or analytical@hrltesting.com

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ABN 97 122 266 871
 22 Corunna Street, Albion, Qld 4010, Australia
Enquiries: Ph: +61 7 3262 6207 Fx: +61 7 3262 6569

