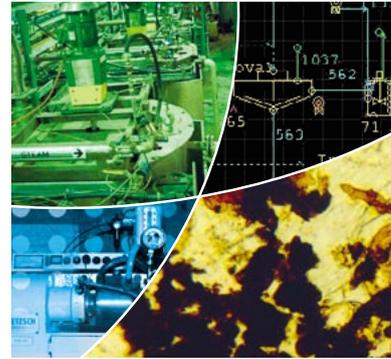




hrltesting

News at hrltesting

October 2007



Welcome to our first edition

Welcome to the first edition of our newsletter, containing items of interest from **hrltesting**. This regular newsletter will contain updates of activities and people around the laboratory. Since **hrltesting** (formerly Hydrometallurgy Research Laboratories) was sold by Xstrata in November 2006, a number of new specialists have joined the team, and the range of services available from the laboratory has been increased considerably. We hope you enjoy this newsletter which will give you an update on some of these developments.

Chris Casingena, General Manager

Analytical services

hrltesting offers a range of analytical services for testwork, control and reporting. The services include mixed acid digest / AA finish, acid digest / fusion with ICPOES and XRF. On a limited basis **hrltesting** is now also offering analytical services to external clients. The services on offer are suited for those cases where high accuracy and precision are required and the numbers of samples are limited. ■

Grinding and flotation

At **hrltesting** we can receive drill core or drill chip samples and undertake a full suite of grinding and flotation testwork. A range of ball and rod mills are available with capacities of up to 300 kg/hr of feed, and this is matched with screening and sample splitting equipment to produce samples for further treatment.

Bench scale flotation testing can be undertaken in cells up to 15 litres, and continuous flotation test work of up to 500 kg/hr can be performed using 60 litre Denver Cells for roughing and 150 or 300 mm Jameson Cells for retreat and cleaning. ■

Albion Process

hrltesting is exclusively licensed to undertake Albion Process testwork.

The process involves ultrafine grinding and oxidative leaching of refractory sulphide ores to recover base and precious metals. The laboratory offers batch leach testing in vessels from 10 litres, or continuous leach trains from 20 litres to 2,000 litres. At the largest scale, up to 1,000 kg of feed solids per day can be processed, and up to 150 kg/day of cathode product can be recovered in a 1500 litre pilot electrowinning cell.

Currently the laboratory is supporting two clients with advanced development projects – European Goldfields' Certej project in Romania, and EnviroGold's Pueblo Viejo tailings retreatment project in the Caribbean. A number of other client studies are also making good progress. ■

New faces at hrltesting



Pau Cheng has a strong background in analytical and laboratory operations, and has recently completed Master of Philosophy Studies in Minerals Processing Engineering at the University of Queensland.



Dr Guozhi (George) Huang is a minerals processing and flotation specialist with a doctorate earned from the Ian Wark Institute, South Australia.



Sandeep Yeolekar has a Bachelor of Engineering (Metallurgy) and is a certified professional engineer with particular interests in minerals processing, pyrometallurgy and secondary metallurgy.

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IsaMilling

The laboratory has many years of experience in the operation of IsaMill ultrafine grinding mills, and it offers both 1 and 4 litre mills, suitable for batch testwork or continuous testwork up to 30 kg/hr of throughput. These energy intensive and efficient mills are vital components of the Albion Process ultrafine grind / leach process, or other processes which require cost effective ultrafine grinding. The laboratory works in co-operation with Xstrata Technology in testing these mills for clients globally. ■

Process engineering services

Our objective at hrltesting is not only to provide testwork services to support clients' projects, but also to develop detailed process designs. We help clients to identify a variety of process options based on best engineering practice and sound technology, and we guide clients' testwork campaigns to deliver results that relate to the full scale process. This structured service includes the following stages:

- Identification of parameters critical to the project, and development of strategies to ensure that these parameters are satisfied.
- Optimisation of process flow sheets to minimise risk, operating & capital cost.
- Conduct scoping & pre-feasibility engineering studies for projects including detailed mass and heat balance models using Excel, METSIM & HSC Chemistry.
- Specification, sizing and costing the equipment in process flow sheets using in-house equipment data bases, and vendor quotes.
- Development of process operating costs including detailed power schedules, reagents & consumables lists and plant labour schedules.
- Acting as clients' representative when liaising with engineering design houses to ensure that targets are met during feasibility and definitive study stages. ■

Introducing John Knights and the new optical mineralogy service

In October 2007 hrltesting launches its optical mineralogy service. Good quality mineralogical investigation is a vital precursor to any comminution or mineral separation study, and it can save time and produce better results in determining optimum grind sizes and mineral separation strategies.

John can provide a full general mineralogical service mainly focusing on optical microscopy examination of polished section grain mounts and/or petrological thin section mounts.

Apart from petrological rock classification with attendant mineral identifications John's experience has been particularly directed in diagnosing process problems and recognising opportunities and potential pitfalls arising from the habit and character of minerals presented in mill products.

The general mineralogy service emphasises succinct reports and rapid turnabout with attention to detail in which often lies the answer to critical geological and processing questions. Digital optical images will accompany the reports where they illustrate important mineralogical features arising from examinations.

John Knights is a specialist industrial mineralogist/petrologist with over 30 years in the mining industry. His experience is strongest in base metal and precious metal samples from exploration, mining and mineral processing streams as well as smelter products and environmental samples.



Newsflash!

We look forward to seeing you at the *Mining 2007* in Brisbane during October 31 – November 2 at our exhibition stand.

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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

