

# GEMS Uncut

## Question: Are We Consultants or Contractors?

- by Oliver Glockner

GEMS team members are both! We are Consulting Contractors!

Definition—Consultant;

Experienced professional who provides expert knowledge (often packaged under a catchy name) for a fee. He or she works in an advisory capacity only and is usually not accountable for the outcome of a consulting exercise.

Definition—Contractor;

Independent entity that agrees to furnish certain number or quantity of goods, material, equipment, personnel, and/or services that meet or exceed stated requirements or specifications, at a mutually agreed upon price and within a specified timeframe to another independent entity called contractee, principal, or project owner.

At GEMS, we like to consider ourselves as a mix of both;

Definition—GEMS;

Experienced professionals who provide a hands on service with advisory capacity, that meets or exceed stated requirements, at a mutually agreed upon price!



## The Cost of Contractors vs Employees

- by Oliver Glockner

Do contractors really cost that much more than employees?

On a direct cost: the employees salary, remuneration vs a contractors charge out rates, the answer is almost always yes.

How-ever, once hidden costs and risks are taken into account, the distinction may not be so clear.

In fact, the value of service by either at the end of the day, may be the deciding factor.

Some of the hidden costs of an employee may be in their entitlements;

Employment entitlements such as annual leave, long service leave and parenting leave, application of award conditions of employment, all add to the real daily cost of that employee.

Contractors train their own team, whereas the employer has to allocate a certain portion of unproduc-

tive time, and extra costs to ensure their team is sufficiently trained to carry out their duties effectively.

So for example, if you have 4x employees, 2 each working back to back 9/5 FIFO rosters to carry out a role;

If each takes their entitled annual leave each year, and allow 5 training days each per year, you are likely to have a vacant seat for about 4 months in the year! One month per employee per year.

Just for starters, the employee really costs you 12 months for 11 months work.

The seat needs to be filled, and days accrued, and in-lieu, still gives same nett result.

So do you hire another multi-skilled and tasked employee to cover the vacancies? Or, do you call on a contractor?

The employer will have the primary responsibility for

taking out insurance, making tax and superannuation payments.

There is a infrastructure cost associated with complying with these obligations that also adds the real daily cost of every employee.

Potentially a big hidden cost during times of economic crisis, when running lean, training trimmed, stress levels up:

The employer is much more likely to be liable for acts of an employee to that of a contractor!

Mistakes are always costly, but are all the more so when its your employee!

In the Surveying and Engineering fields an incident can quickly equal the employees entire annual salary.

Analyze what an employee really costs and maybe you'll find that a quality contractor is not as expensive as you think?

### Special points of interest:

- TODD HOOPER HAS JOINED THE TEAM.
- ARE WE CONSULTANTS OR CONTRACTORS? DEFINING THE DIFFERENCE.
- THE COST OF CONTRACTORS VS EMPLOYEES.
- WINDING IT UP AT SOUTHERN CROSS.
- LINK TO THE CORONERS REPORT ON THE DEATH AT BEACONSFIELD MINE.
- INVEST IN GEMS.
- MINING AUSTRALIA 2009
- LONGHOLE RISING—SOME RISK MANAGEMENT POINTS.

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## Winding It Up at Southern Cross

- by Oliver Glockner

Our contract is winding up at Southern Cross. Since one of us arriving in late January 2008 to fill in for a few weeks, we've ended up with quite a team at the Loch.

At closing stages we have four of us working with St Barbara Mines—Southern Cross Operations!

I'd like to take this opportunity to thank all those who have worked with us at the Loch.

My many thanks from all the GEMS team.



David Bairstow

SBM SXO Marvel Loch Underground Mine Planning Engineer.

Received his 1st Class Mine Managers Certificate. Well done Dave!

Dave's only been at SXO since November 2008, but has left a positive imprint at the site. In his words;

"Stepping into this challenging role, I was responsible for all short, mid and long-term planning of the Marvel Loch underground mine.

My more regular responsibilities included creating development and stope designs, devising mining methods for upcoming stopes, writing stope extraction plan documents and general long-term planning working closely with Geology and Management to increase business value.

I also mentored the drill and blast engineers with many work tasks.

Mentionable achievements include:

Implementation of sub-level cave mentality for mining beneath waste-filled stopes and grade control draw methods

Design of Exhibition open stope/sub-level cave (hybrid) stope to optimise overall ore recovery (added to business value > \$1m)

Completing comprehensive stope extraction plans for the next 100m RL of the mine.

Highly restructured Surpac and Mine 2-4D filing systems

In general, successfully 'putting the horse before the cart' in the planning department".



Tristan Sommerford

SBM SXO Marvel Loch Underground Production Engineer.

Since arriving at SXO in September 2008, some of his achievements include;

Key involvement in designing and implementation of the plan for the successful drilling and firing of a 150,000t pillar blast.

Successful design and project management of a 25m one-shot blind long hole rise.



Tristan Mander

Tristan has continued to Support Oliver as an alternate Appointed Mine Surveyor for Open Pit (Surface) Mining Operations.

This has been in addition to compiling his experience and knowledge as an Underground Mine Surveyor.

Oliver Glockner

With the SXO Survey team, it's taken a significant effort to bring the department towards compliance with WA Mining Act and Regs, as well as WA Mine Survey—Code of Practice 2005.

Some key items Tristan and I have been involved in implementing;

Plans updated monthly, or as required if sooner, not just at three monthly intervals.

Automation of 3dm creation process.

Verification of numerous grid transformations.

Researching old data, and modeling of old workings.

Implementation of the Mine Survey Book.

Mentoring of SXO Survey team.



## Who you gonna call?

Our phone — message service:

**1300 76 30 50**

Our fax:

**1300 76 40 50**

THE TWIST WITH  
THE ECONOMIC  
CRISIS:  
ASK NOT WHAT  
YOUR COMPANY  
CAN DO FOR  
YOU,  
BUT WHAT YOU  
CAN DO FOR THE  
COMPANY!



The above quote being a twist on the John F. Kennedy inaugural address, 20th January 1961.

# GEMS Newsletter - Volume 4

## Invest in GEMS

- by Oliver Glockner

Q: Why choose GEMS as mining engineers, planners, or surveyors to work in with you?

A: Because it is a secure investment!

Definition—Investment

Laying out money or capital in an enterprise with the expectation of profit.

Yes, I like to see us as a positive, low-risk investment, that provides good returns on the money invested (the purchase order for us).

As with all good investment promotions, we can demonstrate a history of positive returns to our clients.

A recent example is Dave Bairstow at SXO:

His design development of a hybrid open stope come sub-level cave stope showed an added value in optimising overall ore recovery.

Conservatively, this added \$1mAUD to SBM SXO business value.

Well worth the money invested in having GEMS as part of the planning team.



Coroners report on the Beaconsfield Mine can be found online at (3.3mb PDF download);

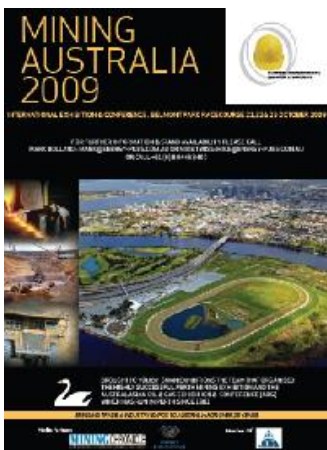
Magistrates Court of Tasmania web site. See;

[http://www.magistratescourt.tas.gov.au/decisions/coronial\\_findings/k/knight\\_larry\\_paul\\_2009\\_tascd\\_25](http://www.magistratescourt.tas.gov.au/decisions/coronial_findings/k/knight_larry_paul_2009_tascd_25)

R.I.P.  
Larry Knight

## Mining Australia 2009

- source: Swan Exhibitions



successful Australasian Oil & Gas Exhibition since its inception in 1981 & the Perth Mining Exhibition & Conference in 2008.

The Mining Australia Exhibition & Conference is set to become one of Australia's premier mining events, attracting visitors from within the mining & resources sectors - both nationally & internationally.

The Mining Australia Exhibition is an ideal opportunity to showcase the latest advances in mining technology, equipment & services to decision makers within Australia's mining & resources sectors over the three days of this major event.

### The Venue

The Belmont Park Racecourse is situated just five minutes for the CBD on the Graham Farmer Freeway the gateway to the Welshpool Kewdale industrial districts, with ample free parking (always an issue with other WA exhibition venues).

The venue is fully air conditioned, with restaurants, bars & live demonstration areas.

### On the Web

For (1.6mb PDF) online brochure and details, see:

<http://www.swanexhibitions.com.au>



### The Expo

Mining Australia International Exhibition & Conference 21st, 22nd and 23rd October 2009 Belmont Park Racecourse, Perth, Western Australia

Brought to you by the team that organised the highly

## Welcome to the team: TODD HOOPER

- by Oliver Glockner



Todd Hooper joined the team over Christmas, as the Appointed Mine Surveyor at Cockatoo Island operations.

Todd has a WA Grade 1 Mine Surveyors certification, and brings to the team a vast range of experiences and survey knowledge he has acquired from numerous sites.

You may know him from Jaguar? Jundee? Darlot? Telfer? Flying Fox?

... Just to name a few...

Welcome aboard Todd.



Are you wanting Survey Laser Levels, Generators, Compressors etc.?  
See:  
<http://stores.ebay.com.au/ABLE-SALES-AU>

Or contact them direct on  
**1300 793 001**



## Longhole Rising— Some Risk Management Points

- by Tristan Sommerford

In most underground mining operations at some point it will be necessary to design a longhole rise.

Whether this rise be a one-shot or VCR (vertical crater retreat) all depends on the mining geometry and needs of the time.

VCR rises have the requirement of top access as with raisebores, however bottom access is not required i.e. for when pulling finger passes etc. There is also a need for sufficient void below the rise to allow the fired dirt to swell and fall.

It is widely recognised that a blind single shot longhole rise is the most difficult way of creating a required void.

Generally most mines have limited success in achieving the required height and width when firing a one shot rise.

There are many considerations that need to be taken into account when designing a longhole rise that is intended to be taken in a single firing:

- Initial void for the shot holes (first holes to be fired in longhole rise)
- Length of rise
- Void that the drive provides
- Hole spacing
- Timing; not only giving enough time for dirt to fall out of rise but not allowing holes to damage surrounding holes
- Breakout angle of holes
- Other considerations are hole deviation, need to consider rig capabilities and rod type and assess drilling parameters i.e. maximum

depth, and ground conditions.

These last two points have to be considered on a case by case basis.

Your initial void is created by drilling reamers (holes that are larger diameter than shot holes) which are not charged and are simply there to give the ground somewhere to heave.

In-situ ground generally swells by around 30% when it is fired; hence a sufficient area is required when firing the first holes to allow for this swell. Commonly shot holes are drilled so that they are in the proximity of more than one reamer; by doing this the shot hole sees as much void as possible giving it the greatest opportunity to break the ground without freezing. This also allows the shot hole to be moved a reasonable distance away from the reamers so all holes are practicable to be drilled. The spacing (measured from hole centre to centre) of the holes is all dependant on the hole size and arrangement. As the shot hole moves further away from the reamers it has more ground to break so the ratio between hole size (both reamer and shot hole) and spacing becomes very important.

Before looking at hole spacing and void ratios between shot holes and reamers it must be determined whether the slot that is intended to be taken is plausible. When initially planning for any longhole rise the void ratio has to be considered for the overall design. This has to include the drive void and the total height of the proposed rise. As reamers

aren't a practical or sufficient method of providing void for the entire opening the void provided by the drive below the rise has to be considered. When firing a longhole rise the dirt fired will report to drive below due to the force of the explosive and gravity. As the material is fired down, timing between holes has to be sufficient enough to allow the entire column to clear the rise and create sufficient void for the following hole. The timing between holes has to allow for the fall of the dirt but cannot be so great that the fired hole has a chance to affect the holes around it.

One way to guard against this hole desensitisation is to shadow the shot holes, this process protects the shot holes from one another and decreases the risk of problems when firing.

The design process and execution of a blind single-shot longhole rise can be a daunting task when the success rate in the past has been low.

There are many different aspects to consider when designing a single-shot long hole rise however the key to having the best chance for success is stringent quality control on the design (both drill and charge plans), drilling and charging.

If any one of these aspects are glossed over, the success rate of the rise will be greatly diminished.

I invite anyone interested in this topic; wanting to discuss these details, to contact myself via email to: [tristan.sommerford@mineengineering.com.au](mailto:tristan.sommerford@mineengineering.com.au)



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As well as advertising, we're doing a study (read = different type of survey we usually are involved in!) on how well this type of an online add is noticed, and the response to it.

We welcome your feedback.

Please send emails to [greg.valli@mineengineering.com.au](mailto:greg.valli@mineengineering.com.au)

Or call him on 04 2848 4114

HE WILL WIN  
WHO HAS  
MILITARY  
CAPACITY AND IS  
NOT INTERFERED  
WITH BY THE  
SOVEREIGN.



The quotation and picture above are from Sun Tzu — The Art of War.

Do today's Mine Managers stand up Corporate CEO's as this general did to the emperor?

Who is the general in mining?