

great EXPECTATIONS

VALUE THROUGH PLANNING

THE NEWSLETTER FOR MINING PROFESSIONALS

MAY 2007

The Runge Group - now established in Sydney, Beijing and Jakarta



Tony Kinnane, Managing Director

2006/2007 has seen the Runge Group grow and expand our reach further around the globe. The Runge Group now has 15 offices across 10 countries, providing a truly global service to our customers in

all regions. This has been enhanced through our recent acquisition of MineConsult Pty Ltd (MineConsult), an Australian owned independent mining consulting group, and Minarco Asia Pacific Pty Ltd (Minarco), mining and energy industry advisors in the Asia Pacific region.

Strategy

These acquisitions reinforce Runge's strategy to globalise the business. With a Sydney headquarters, Minarco and Mineconsult also have established operations in the Chinese and Indonesian markets and these offices provide a natural fit for the Runge Group's products and services. This strategy follows the success of our recent growth with MRM Mining Services Pty Ltd in South Africa and Pincock, Allen & Holt in North America.

The successful integration of these companies has directly contributed to Runge's half-year FY2007 results where profit before tax for the six months ended 31 May, 2006, was A\$3.7 million, 34 per cent ahead of budget. Revenue was A\$17 million, 11 per cent ahead of budget.

Talent

The joining of Minarco-MineConsult to Runge and the subsequent expansion

into new geographical areas is part of Runge's strategy to attract and retain skilled resources as the mining industry continues to grapple with a global talent war. Management and employees of Minarco-MineConsult will join Runge, lifting the total number of Runge employees globally to 235. By growing our geographical presence Runge has broader career opportunities for staff, increased personal growth as well as access to learning from the skills of our experts in the global mining community.

Customers

Our customers have already experienced benefits associated with access to increased resources which allow us to focus on working ON their business with them. Our experience base, coupled with processes and intellectual property provides a solid basis for successful business relationships with our customers.

About Minarco-MineConsult

Minarco and Mineconsult combined late last year to become one entity, Minarco-MineConsult. Runge acquired this merged entity in March 2007 and determined that Minarco-MineConsult will continue to provide independent services to their respective clients, but will benefit from efficiencies realised from sharing management and administrative functions. The newly acquired Minarco-MineConsult, as part of the Runge Group of companies, will also tap into the global experience and resources of the Runge Group.

MineConsult, a wholly owned Australian company, has been providing mining engineering consulting services covering the coal,

metalliferous and quarry industries for the private and public sectors since 1991. Minarco provides mining and energy industry advisors in the Asia Pacific region. Its clients include some of the mining industry's most well known operators, trading houses, commodity users, government bodies, investors, and financiers.

As CEO of the Runge Group, I am very excited by the many changes in our business. Our focus on meeting customer needs has driven these changes and our strong relationships with our customers shows that they recognise the value this provides.

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THE RUNGE GROUP



www.runge.com
www.pincock.com
www.mrms.co.za

As with everybody else, we're still busy! In particular our Perth office continues to grow rapidly. For those of you needing to contact the team in Perth, the people to call are:

Ben Maziarz – Manager Mine Planning Systems – For your mine consulting, XPAC, Xact needs.

Tim Fairbanks – Manager Business Analysis – For your financial modelling and XERAS needs.

It's also exciting times for us with **Minarco Mineconsult** now part of the Runge Group. Having 40 more team members and bases in Sydney, Beijing and Jakarta is helping us to better service these regions. We now have a combination of experience, business planning tools, customer relationships and office locations to assist just about anyone in the mining industry just about anywhere in the world. Our aim is to always put the best overall Runge Group team together for a given project based on location, experience, local knowledge, and familiarity with customer needs.

Trends

A major focus in Brisbane and Perth continues on Xact implementations for shorter term mine scheduling. Additionally our customers are focussing more earnestly on standardisation of their mine planning tools and methodologies over multiple operations. This is seen to have obvious benefits with respect to comparability of results and minimising training of staff moving between sites. At the same time, standardisation is helping to address the corporate governance demands for: full disclosure, transparency, auditability and accuracy of business plans. Yes, Corporate Governance is here to stay; as well as making good business sense, it's the law.

This leads me to the next topic, a lighter look at the law.

Laws to Remember

We live in highly regulated times. It is important that we understand the laws and learn to live with them: tax laws, mining laws, environmental laws, corporate laws, traffic laws, immigration laws, gun laws, mother in laws..... there's a bunch of them. I thought I'd touch on a few lesser known but significantly important laws that may help you to better understand the world around us.

I will start with a standard disclaimer, *Poe's Law*: *"Without the use of a winking smile or other blatant display of humor, it is impossible to make a parody of fundamentalism that someone won't mistake for the real thing."* Having set the scene, I'll now introduce a few laws that are close to the heart of the mining industry.

Climate change and man's ability to "control" it is a hot topic. An aptly named law may help to explain what we currently see and hear, particularly with respect to man's impact on climate change, *Green's Law of Debate*: *"Anything is possible if you don't know what you're talking about."* Similarly *Benford's Law of Controversy*

sheds further enlightenment on the blind faith with which western society has apparently embraced theories of our ability to control climate change: *"Passion is inversely proportional to the amount of real information available."* When in actual fact we should all remember *Sturgeon's Law*: *"Nothing is always absolutely so."*

Ignorance of the above laws has even resulted in a recent campaign to control climate change by closing down the Australian Coal industry. *Hanlon's Razor* may help to set the record straight on what's behind this campaign: *"Never attribute to malice that which can be adequately explained by stupidity."* Maybe *Elbert Hubbard* put it even better: *"Genius may have its limitations, but stupidity is not thus handicapped."*

I'll now move away from the previous controversial topic to touch on laws related to something old guys like me both love and hate - Technology. Most who use computers and software can attest to *Clarke's Third Law*: *"Any sufficiently advanced technology is indistinguishable from magic."* We also know that software can greatly improve our efficiency in day to day activities, but unfortunately this is where *Parkinson's Law* too often kicks in: *"work expands so as to fill the time available for its completion."* Finally even with the increased efficiencies, *Hofstadter's Law* usually rears its ugly head: *"It always takes longer than you expect, even when you take into account Hofstadter's Law."*

About now you're probably asking, "where's he going with this?"

Firstly, efficient business planning for a sustainable resource industry that minimises the impact on our environment is absolutely critical to all our livelihoods. Similarly, planning for and managing business risks including the potential impacts of climate change is a necessity. However, whether we're looking at climate change issues or the effective use of Technology for business planning, we must always remember a few key scientific guidelines. Most of us learned these concepts fairly early in school science and mathematic classes. They are crucial to efficient use of our time and meaningful decisions in our business and personal lives.

- Controlled experiments are required to accurately measure the impact of changing a given variable.
- Unless a change or variance is statistically valid, it may only be the result of natural "scatter".
- Levels of materiality or appropriate number of significant figures must be carefully considered for any analysis, so as not to waste effort or misinterpret results.
- Looking at too small a "window" on any graph, curve, or other display of data can lead to severe misinterpretations of actual results and trends.
- And lastly, do not confuse hypotheses with scientifically proven facts.

In closing, how do we keep our sanity in times of conflicting opinions and data? Remember *Hubbard's Law*: *"Don't take life too seriously; you won't get out of it alive."*

Does this Geological Resource Model Make Any Sense?

Computerized geological resource modelling is a specialised skill, which is part science, part art, and sometimes complete garbage. This is a dangerous combination. The errors of a faulty model will propagate all the way through the economic analysis of a mining operation, straight to the bottom line. Therefore geologists, engineers, metallurgists, investors, CFO's, CEO's, and all the rest have a vested interest in resource modelling. Ideally each of these individuals would have sufficient skills to look over a given model and be able to answer the question: Is this reasonable? Yet too often the only person who has looked over the resource model is the person that created it.

When editing the text of a report, a fresh set of eyes can spot typos and other blunders a lot better than the author. The same is true for modelling.

Before beginning a review of a geologic resource model, we should first have a basic understanding of how these types of models are constructed and of their purpose. A resource model is an interpretation of the location, size, shape and grade of a deposit and the surrounding waste material. This interpretation is based on information derived from drill holes such as geological contacts, rock types, structures, assays, geophysical logs and density measurements.

The modeller, who starts with an empty chunk of three dimensional (3-D) space on the computer screen, will bring this drill hole information into that space just as it exists in the real world. The modeller will then begin to divide the 3-D space into zones representing different types of rock types, different zones of mineralisation, or perhaps the hanging wall and footwall of a fault.

Additionally topographical data will be used to divide the 3-D space into an above ground (air) zone and a below ground (rock) zone. The boundaries of these zones are typically 3-D wireframe surfaces and solids or a series of polylines. At this point the location, size and shape of the deposit are loosely defined.

To refine these and determine grade it will be necessary to develop a block model. When developing a block model, the modeller will take the same 3-D space he has been working with and divide it into a matrix of small blocks usually of equal size. These blocks will hold bits of information about the small portion of 3-D space it encompasses. This information should include the type of rock, the average density, grade, and resource classification (measured, indicated, or inferred). There are different ways for determining what value a block will hold. For instance, the rock type of a block might be assigned based on the zone it falls in from the previous wireframe work. Block values such as grade are typically assigned based on some weighted averaging scheme using the surrounding drill hole grade values. Block sizes vary from model to model. To give the reader a point of reference, a typical block size is about 25 percent of the average drill hole spacing for the X and Y dimensions, and equal to the projected mine bench height for the Z direction. For example, if a given deposit was drilled on 100 meter centers and the general idea was to open pit mine the deposit using 10meter benches, the block size used for

modeling would be 25 by 25 by 10 meters in the X, Y, and Z dimensions, respectively. Again this is just a general rule of thumb, not stone cold fact.

Conducting the Review

Again, geologic resource modeling is a specialized skill. It should be noted that a great deal of that specialization is a simple matter of software know-how. The modeling packages available today are powerful, versatile, and inherently complex. Just importing drill hole data can be a daunting task. The good news is that this software know-how is not a prerequisite for validating model results. The tools one needs to conduct the type of reality checks that are the subject of this article are the model documentation detailing the modeling methods and, if not already included in the documentation, a few sections through different parts of the model and some basic statistics of the values in the block model and those in the drill holes.

Sections

Sections are narrow slices of the model space. While they can be generated in any orientation, vertical and horizontal are the most common. For our purposes, these sections should display drill hole locations, colour coded drillhole and block values (such as grade, density, and rock type), and lines indicating the location of important boundaries (such as geologic contacts and topography). When comparing block values and drill hole values, it is best to have a separate set of sections for each value. Trying to compare block grades against drill hole grades on a section that also includes densities and rock types can get confusing. While studying sections, ask the following questions:

1) Do the drill hole collars match-up with the topography?

It is a simple question, but one that could expose a serious problem in the model. If the collars and topography aren't matching, it might indicate a busted survey or an error in importing the data. Either way the spatial integrity of all data and results are in question. Here are three legitimate reasons the answer to this question might be no: a) the hole was drilled from existing underground workings, b) between the time the hole was drilled and the time of the topographic survey the ground was disturbed, and c) the terrain is very steep and the hole is far enough from the section center line that it appears the collar elevation is in error.

2) Do the air blocks have appropriate values?

All blocks above topography are air blocks. Air blocks should have densities of zero for obvious reasons. The same is true for the grade values of air blocks. One can make the argument that an air block with a positive grade value is not a problem as long as the density of that block is zero. Such a block would not contribute to the tonnage and grade of the resource estimate due to this zero density value. However, interpolating grade into the air is not common practice and may indicate that block grade interpolation did not occur as intended.

3) Do all blocks below the topography have a density greater than zero?

A block without density will not contribute tonnes or grade to ore source estimate. Just as important, such a block will not contribute to the mining cost during the pit optimization analyses to be conducted down stream. It is not uncommon to see block models where only blocks that received a grade value also received a density value as well. However, this is a problem when it comes time to determine the economic viability of the deposit where knowing the total tonnes of waste to be moved is as important as knowing the total tonnes of ore to be recovered.

4) How far does grade extend from the drill holes?

This question brings us to a slippery slope that could lead in to the shadowy world of geostatistics. While such discussions are necessary for a detailed audit, they are beyond the scope of this article. Instead, observe the distance between a block with an interpolated grade value and the nearest drill holes. This distance should be less than or equal to the maximum search distances cited in the model documentation. This exercise is simply to help verify that grade interpolation has followed the plan.

5) Do the block values fairly represent the drill hole values?

This is where having blocks and drillhole intervals colour coded based on value is really helpful. If a drill hole encounters a layer of limestone, the surrounding blocks should have been assigned the limestone rock type. If a drill hole encounters a low grade zone, the surrounding blocks should have similar low grade values. The same goes for density.

Basic Statistics

Comparing block grades against drill hole grades in section, as described above, is an important qualitative check. To get a more quantitative comparison we must delve into some statistics. This analysis focuses on the means and the overall shapes (as displayed on a histogram or cumulative frequency curve) of the block grade distribution and the drill hole grade distribution. When dealing with drill hole grade distributions, you may encounter the term “declustered”. It is often true

that exploration drilling programs sink fewer holes in low grade areas of a deposit than in the high grade areas. As a result, basic stats run on the assays from these holes will be biased towards higher grades. Geostatistics offers a method for mitigating this affect. This method is called declustering. If statistics for the declustered drill hole data are available, use those. If not, take a second look at some of the sections to see if the drill hole spacing in some areas is denser than others. You may be able to get away with using the unaltered drill hole statistics if the holes are generally evenly spaced. Otherwise, this comparison will yield misleading results. While comparing the drill hole grade statistics with the block grade statistics, ask the following questions:

1) Are the means close to the same value?

They should be. Just how close is a difficult question to answer especially if the distributions are highly skewed. Keep an eye out for anything absurd.

2) Do the distributions have similarly shaped histograms/cumulative frequency curves?

While never identical, the general shape of the block grade distribution should reflect that of the drill holes. Some deposits may show multiple populations within their drill hole grade data. On a histogram this will present itself as two or more peaks rather than one. Instead of a smooth cumulative frequency curve, multiple populations will cause the curve to deflect. If multiple populations exist in the drill hole data, expect to see them in the blocks as well.

Note: Blocks sizes are usually a lot larger than sample sizes. As a result, the spread of the block grade distribution will be tighter than that of the drill hole grades (Tip: impress your friends by referring to this as the Volume-Variance Relationship). For block grade distributions, expect to see narrower peaks on the histograms and steeper slopes on the cumulative frequency curves.

Summary

Generating geologic resource models is not an easy task. Wrestling with huge amounts of data, making sense of geostatistics, and just getting the software to behave as intended can play havoc on a modeler’s ability to think clearly. Consequently, there is a great deal of value in having a fresh set of eyes look over the model results seeking evidence of gross errors. Fortunately, one does not need to possess any specialized skills to determine if the model results are reasonable. Certainly full technical audits are important. Yet, armed with a few sections, some basic statistics, and a little common sense, anyone can spot a major modeling blunder.

This month’s article was provided by Aaron McMahon, Geologist aaron.mcmahon@pincock.com

South Africa

Ian Perks



MRM has moved into new larger offices to accommodate our growing staff numbers.

Linelle Antwerpen has joined MRM in South Africa as Office Manager. Linelle will also be responsible for coordinating the Professional Development Training in South Africa commencing May.

Whitby Manor

167, 14th Road Extension 32, Noordwyk 1682
Midrand Johannesburg
Ph: (011) 318 6800

Latin America

Hugh Thompson



We would like to welcome Islanda Neira to the team in the Santiago Office. Islanda joins us as office administrator and we wish her all the best in her new role.

We have been busy with a number of XERAS and XPAC consulting jobs as well as attending a number of mining tradeshows in South America.

We recently sent representatives to attend the International Symposium on Application of Computers (APCOM) 24 – 27 April 2007 and the Arminera Conference held in Buenos Aires in May.

John Hives, Mining Consultant, Runge Ltd Australia, submitted a technical article for the APCOM symposium which covered Mine Planning and Production Scheduling, specifically short term scheduling with XACT.

If you would like a copy of John Hives' XACT paper please email lyoung@runge.com.au with your request.

Europe

Jon Scott



The UK experienced the hottest April on record with temperatures reaching a giddy 21 degrees celcius - which was a change after experiencing Moscow at minus 21 in February.

Runge continues growth in this region.

Our recent software sales growth and consulting has focused on Russia but also has had sales, marketing and consulting interest in Germany, Egypt, UK and Norway.

Runge aim to hold a number of professional development courses in the region in the immediate future and are looking to continue current implementations with our existing clients. Europe has had a number of visitors from the overseas offices and especially South Africa and Australia. The European region looks forward to an increase in activity as the Runge group continues to expand.

North America

Fraser Rowe



Since our last installment a lot has happened in the Runge North American world. We have steadily increased our client base with software sales to a number of new and existing clients.

We particularly would like to welcome the following new clients into the North American Runge world:

Rio Tinto Minerals- Americas (Colorado Corporate), Rimpull Corporation, Total - Deer Creek Energy, North American Construction Group, Asarco, DeBeers, AMEC Consultants, Petro Canada, Alcoa.

Consulting activities continue at a brisk pace. Although at times it requires good juggling skills, we are still managing to keep everyone needs satisfied and will continue to do so into the future as we expand our consulting staff.

On the personnel scene Daniel Bales joined our team in Gillette and Paul Shattuck and Hugo Miranda and Andrew Ramcharan have joined our team in Denver. We are now eagerly awaiting the arrival of our new consultants Rebecca Jones and Nick Ogilvie, who will be making the long trip from Australia to set up home in Calgary in July.

The round of early year trade fairs is nearly completed. This year Runge and PAH have combined booths at CIM in Montreal, SME in Denver and PDAC in Toronto. Thanks for everyone that dropped in and said hello. **Mining Dynamics was unveiled at PDAC revealing its revolutionary capabilities to group of industry executives atop the CN Tower.** (See page 6 for more information on Mining Dynamics). Coming up in early June is the Longwall USA conference in **Pittsburgh, Pennsylvania**, where Runge will be exhibiting for the first time. **At this conference we will place special emphasis on our XPAC Underground Coal Design and scheduling system, as well as our longwall Face Time Simulator known as FACETS.** Don't forget to drop in and visit if you are attending.



Runge Launches Next Generation in Mining Technology

Last month Runge launched a new software solution, Mining Dynamics which provides instant communication and information between mining operations and their head office.



Mining Dynamics provides a visual system to support data and workflow management across the entire production chain from geology, modelling and design, through to scheduling and reconciliation.

As a result of the solution being applied to all levels of the mining business, Mining Dynamics provides a transparent system that can be easily audited.

Runge has designed Mining Dynamics to enable mining operations to meet complex global compliance and legislative requirements. It provides the mining industry with a tool for proactive issues management by bridging the gap between mining operations and head office.

Mining Dynamics is also vendor independent and as such works with mining companies' existing systems avoiding the need for costly legacy system replacements. It is designed to provide standardisation across the geological and engineering processes.

Contact Glen Kuntz for more information on Mining Dynamics (gkuntz@runge.com.au).

Product Enhancement Exploration

As discussed in a previous edition of Great XPACTations, Runge has been exploring the potential of linear (LP) and mixed-integer programming (MIP) to enhance our products. We have recently completed a prototype that draws together the strengths of LP and Xact, our short term scheduling package, to help grade control engineers perform detailed blending. This tool works with the block the user has placed on the Gantt chart, and allows the user to target precise blends while honoring dependencies, locked blocks, and start periods. Videos and more discussion are available at:

<http://www.runge.com.au/forums/showthread.php?t=71>.

Contact Sean Steward for more information on this (email ssstewart@runge.com.au).



Women in Engineering at CIM



"Women in Engineering" was one of the panel discussion topics presented at this year's Canadian Institute of Mining and Metallurgy (CIM) conference in Montreal, Quebec. I was pleased to find that the panelists did not take the strictly feminist approach and claim women can do it all, but instead made mention of the fact

that women are not MORE creative, nor MORE intelligent, but in fact bring an ALTERNATE approach to the business world, which is EQUALLY intelligent, and EQUALLY creative. The presentations went on to further point out that there are very clear differences between men and women, however the strengths that each possess should be embraced, and the collaboration of the two sets of strengths is what really forms an effective company.

Although the panelists kept their presentations to the topic of their experiences in being part of strong, effective teams comprised of both sexes, every question from the audience focused on managing a family and a career, managing maternity leave, and managing a career when a spouse is also a professional in the mining industry. Several of the audience members provided personal experiences where maternity leave only involved the mother and there was no time allocated for the father, they mentioned companies where it was virtually impossible for a mother to return to work and manage a family due to inflexible work hours, and that being part of a couple where both parties are professionals meant they almost always had to work for two different companies. I began to think about the opportunities that Runge provides for its personnel. We allow for maternity leave where either the mother or father, or a combination of both parties can be present in the beginning of their child's life, and can return to work after that time with the knowledge that their schedules can be flexible if required. We allow personalized work hours where our consultants can work part or full time, and do so either in the office or from home to accommodate personal schedules. Runge also fosters an atmosphere where couples can work for the same company in an environment that can pull on each individual's strengths and skills. As I am half of a professional couple, this unfortunately means looking across the office at my husband all day, but on a positive note, it also means we only require one vehicle as we commute to and from work together.

Clearly attraction and retention are problems in the mining industry at the moment, and companies who can provide their employees with a working environment that can blend with their personal lives will clearly be more attractive than companies who are inflexible when it comes to family. In my experience, Runge is an industry leader in this respect, as we know the way to attract and retain good people is to keep our employees happy by encouraging and accommodating the appropriate blend of work and personal time.

*Jessica Barber
Mining Consultant, Calgary Office*



Professional Developments by Gary Gibson

Runge PD Courses to be launched in South Africa

Following the success of our range of Professional Development courses throughout Australia and in North and South America, Runge has decided that the time is opportune to launch some of our most popular courses on a staged basis into the South Africa mining sector.

One of the factors taken into consideration is that Runge now has two offices in South Africa. The head office is in Midrand and a new smaller office has recently been opened in Witbank to service our growing list of clients in this important coal mining region of South Africa.

Having two offices fully equipped with modern training rooms will enable us to conduct courses at both locations. This will enable us to service potential attendees from Head Office locations in Johannesburg as well as attendees from site locations around the Witbank region.

Our plan is to use a staged approach to introduce the new range of courses. The first course to be offered will be our popular “Mining for Non Miners” course scheduled to be held in our new Midrand offices on Thursday, May 17th and repeated again in our Witbank office during the following week on Thursday, May 24th.

Our intention would be to also conduct a number of in-house courses for interested clients during the period that our presenter is in the region. Ultimately, the long-term plan is that local consultants will gradually resume responsibility for presenting the courses once they have undergone the appropriate training themselves. This will ensure that the course content will accurately reflect regional processes,

concepts, cultural issues and terminology.

These initial courses will be followed by a series of other courses including:

- Mining Economics
- Dragline Mining Systems
- Truck and Loader Mining Systems and
- Integrated Open Pit Design

These additional courses will be conducted on a monthly schedule based on demand up until the end of the year. Again, customised, in-house courses can be arranged as well as the open, public courses.

This is an exciting development for Runge and we are confident that, given time and dedication, we can repeat the success that these courses have experienced in North and South America as well as, of course, in Australia.

Given the thirst for learning and vocational training in the Rainbow Nation and the growing demands of the new Broad-Based Black Economic Empowerment (BBBEE) legislation, we see a real opportunity to offer a series of practical, well-proven Professional Development programs to help alleviate the much-talked-about skills shortage in the mining sector in South Africa by helping to upskill previously underprivileged mine workers.

For more details contact Ms Linelle Van Antwerpen Phone: +27 11 318 6800, Email: lvanantwerpen@runge.com.au in our Midrand office.



2007	Mining for Non Miners	Mining Economics	Dragline Mining Systems	Integrated Open Pit Design
JUNE	6th Brisbane			
AUGUST	13th Brisbane, 20th Perth	7-8th Brisbane, 21-22 Perth		
SEPTEMBER	5th Sydney		12-13th Brisbane	
OCTOBER	22nd Brisbane	23-24th Brisbane		15-19th Brisbane
NOVEMBER	12th Perth	13-14th Perth		
DECEMBER	3rd Brisbane	4-5th Brisbane		

Contact Ada in Runge’s Brisbane Office for further information on all Runge’s Training Courses (email amilos@runge.com.au)

Staff Profile



Name: Ben Hall

Position: Principal Maintenance Consultant

1. First job?

My first paying job was at McDonald's. I would have to assemble the hamburgers once the patties were cooked. I think I lasted a month before going back to school so I could do better. My first job in mining was at Riverside in Central Queensland. As a student I had to crawl under every coal screen in the preparation plant, scrub the coal dust off and count the cracks in the supporting framework.

2. Most important advice you have received?

A bad decision is better than no decision. Mining is about getting things done, and you can't wait for all the information and all the answers. Take the best information you've got, and make a decision to meet your deadlines.

3. Biggest challenges facing mining industry today?

The lack of skilled and talented people. Throughout the nineties, mining was seen as an "old world" type of industry. Recruitment and training rates were low. We are now faced with a shortage of good, experienced people. There are now many cases where insufficient, or poorly trained staff are having to cope with too much.

4. Book you are currently reading?

"The Hard Way" by Lee child. A novel about a no nonsense, ex army guy who has a very direct way of solving problems.

5. One person you would most like to meet?

Clarence "Kelly" Johnson, now deceased. He ran the "Skunk Works" for Lockheed for thirty years and managed to produce some of the most exotic and best performing machines in history. His key to success was a thorough process, followed rigidly that enabled people to use their creative talents in a focussed way. Having set the targets, he would then focus on giving his people a clear run, not second guess them.

MRM HAS A NEW WEBSITE!

MRM Mining Services (Pty) Ltd part of the *Runge Group*, specialise in systematic, integrated mine planning and mine financial planning.

MRM is based in Johannesburg and Witbank in South Africa and provides comprehensive software support and solutions in mine planning, using Runge's suite of software products. MRM also has expertise in dynamic Project Management, Geological Consulting and Mine Consulting.

MRM have recently undergone a website 'renovation'. The new website provides customers with up to date information on MRM services and capabilities as well as Runge software products. The new website also features Professional Development Training information about courses on offer in South Africa.

www.mrms.co.za

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mining dynamics

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