



DEPARTMENT OF  
MINERALS AND ENERGY  
WESTERN AUSTRALIA

MINING OPERATIONS DIVISION

# MINESAFE

## Remote Control Machines Underground

3 FATALITIES IN  
6 MONTHS IN WA  
MINES... *See page 2*



## MINESAFE IS PUBLISHED BY :

The Mining Operations Division  
6th Floor, Mineral House  
Department of Minerals and Energy  
Western Australia  
100 Plain Street  
EAST PERTH WA 6004

Consultant

Editor: Catherine Stedman  
Tel: (08) 9317 3485

Associate Editors: Mark Butson  
Chris Stubley  
Patrick Burke  
Mark Brown

Typesetting: Carol Keogh  
Graphic Design: Christine Gillard

Enquiries: Tel: (08) 9222 3310 / 9222 3545  
Fax: (08) 9325 2280  
<http://www.dme.wa.gov.au>

MINESAFE is published four times a year by the Mining Operations Division in conjunction with the Policy and Planning Division. Articles and news items may be used freely, although we would appreciate acknowledgment, as well as a copy of any publication in which they are used.

## Inside .....

### PAGE SPECIAL FEATURES:

2. Remote Control Machines Underground
4. A New Australian Standard for the Management of Occupational Noise
5. Mechanical Scaler
6. Poseidon Story Preserved at Windarra
7. Attendance at Accredited Safety and Health Representatives Training Courses
8. New Structure for Mining Operations Division
10. Winter is Here - Avoid Electric Shocks
11. "Wesgard" - Welding Voltage Reducer
12. Australia is Moving (or So it Seems)
12. Biological Monitoring of Mine Employees
13. 1998 Surface Emergency Response Mine Rescue Competition
14. Mining Fatalities Taskforce
15. Guide to Positive Performance Indexing Now Available

### REGULAR ARTICLES

2. Have Your Say!
3. Guest Editorial
14. What's On
15. Staff Changes
15. New Publications
16. Incident Alert

# COVER STORY

## REMOTE CONTROL MACHINES UNDERGROUND

The recent tragic fatal accident to a loader operator at Bronzewing mine provides a stark reminder of the very real hazards present in underground mines where large mobile (free steering) equipment is operated.

The hazard is well recognized, and the risk of injury to personnel where such equipment is operated in the confined spaces in underground mines is very high for persons in the vicinity, both in terms of probability of injury occurring, and severity.

For that reason, standard operating practice for persons on foot in the vicinity of mobile equipment, is for the equipment driver to stop, until those persons have walked past, or reached a position of refuge clear of the equipment's movement zone.

It is all the more critical that personnel operating mobile equipment on remote control, do so from a secure position, and operate in such a manner that they are always well clear of the unit, and never between the unit

and side walls when it is in motion. The safe operating position must be maintained until the equipment is immobilised.

The control functions on remote operation, even for a highly skilled and experienced operator, are never as effective as when the operator is seated at the manual control position.

All other personnel, whether on foot or in mobile equipment, must remain well clear of the remote operation, and any approach to the operating area must be strictly controlled.

Safe systems of work and thorough operator training to ensure competence are essential.

Systems of work must be developed with the personnel who are to operate the units and the system checked and validated.

Operating guidelines for this type of equipment will be developed through the standing committee of MOSHAB. These will be distributed when they are available.

## HAVE YOUR SAY!

If you have anything to say regarding Minesafe articles, mine safety or topical mining issues please send your letters to the attention of the Minesafe Editor at the abovementioned address.

Selected letters sent to the Editor will appear in future issues of Minesafe.

# GUEST EDITORIAL

In the four months since the release of the **Report on the Inquiry into Fatalities**, four more deaths have occurred in underground mines, one on the day the Report was released.

This Report identified a range of deficiencies in safety performance at all levels in the industry, and in particular, highlighted the existence of an entrenched risk-taking culture in the underground sector.

With five fatalities in five months, coming after a year in which ten people were killed, the whole community asks **WHY?**

It can not be a lack of awareness of the problems. The Report has been widely distributed and brought, by extensive media coverage, to the attention of the wider community, as well as to those directly employed in mining and their families. Its content has been widely discussed and considered in detail, across the industry.

However, a Report in itself will not drive change and improvement.

Improvement will come only from total commitment and involvement on the part of all involved in the industry to accept the findings of the report and remedy the defects.

Working parties have been established through MOSHAB to carry out a range of tasks, including the development of two codes of practice. All of these outputs merely provide the means for organisations and individuals to understand and manage risks more effectively. The motivation to improve must come from within each enterprise, starting with leadership and commitment from the top.

The issue of an entrenched level of risk taking and the factors which influence such behaviour were covered in the December 1997 MINESAFE report from the Fatalities Taskforce.

Two factors are evident in these recent deaths, which were touched on in the December 1997 article.

These are, tolerance of identified risks, and failure to appreciate the severity of risks, on the part of individuals and organisations involved.

## WHAT IS REQUIRED TO IMPROVE SAFETY CULTURE?

Three basic elements are essential for efficient and safe performance.

- Knowledge
- Capacity
- Motivation.

The **knowledge** required of hazards and (foreseeable) risks is generally widely available, but it is not always effectively communicated within operations.

The **capacity** exists at most operations, and includes safety management systems and programs, fit for purpose plant (including equipment), and training and supervision of personnel. These last two have substantial room for improvement, in the underground sector. A further critical aspect is to ensure that time constraints (real or perceived) do not impact adversely on safe performance.

**Motivation** remains the critical key to improved performance. There must be strong leadership, demonstrated management commitment, trust and co-operation between employers and employees, and a belief that all injuries are preventable. This must be supported by a genuinely held belief that real efficiency and productivity is achievable only where safe performance is the primary driver of the production function. Proper motivation is inherent in developing and maintaining a successful safety culture.

James Reason defined culture as

**“The unwritten rules that govern acceptable behaviour”.**

(In this context **“acceptable”** means **“responsible”**).



**J M Torlach**  
**STATE MINING ENGINEER**

# A NEW AUSTRALIAN STANDARD FOR THE MANAGEMENT OF OCCUPATIONAL NOISE.

“Occupational noise management” (AS/NZS 1269) was published in March, effectively replacing the previous version of AS 1269-1983, “Acoustics – Hearing Conservation”.

The Mines Safety and Inspection Regulations 1995 refer to AS 1269 for noise control and therefore the revised standard will impact on noise control strategies undertaken by the mining industry. The standard does not set new occupational noise criteria as this is still governed by regulatory requirements, such as the action level specified in MSI Regulation 7.3.

In general terms, the changes which have been introduced in the new standard include:

- The expansion of the noise control section to emphasise noise control as the primary goal of an occupational noise management program.
- The provision of more detailed guidance on the implementation and management of both noise control and hearing protection programs.
- The improvement of procedures for auditory assessment.

More specifically, the revision reflects the change in concept from a “noise dose” to that of employee “noise exposure” which is now assessed differently and includes adjustments if employees work shifts longer than 9 hours.

The adjustment compensates for the additional employee hearing damage which results from continued exposure once the

temporary threshold shift is reached, ie. after 10 hours of exposure.

Typically, an employee working a 12 hour shift will have 1 dB(A) added to his/her normalised total daily noise exposure value. This adjusted value is then used in determining the noise management for this employee.

Consequently, all noise reporting required by MSI Regulations 7.10 and 7.11 should be based on the adjusted noise exposure values.

Moreover, mining companies operating extended shifts will need to re-set their noise exposure target levels in line with the recommended adjustments. For those companies operating 12 hour shifts, the current exposure target level of 83 dB(A) (LAeq, 8h) will become 82 dB(A).

The revised standard has also introduced new classification and selection methods for hearing protectors. The protectors are now required to be selected based on the employee noise exposure values instead of a single noise measurement recommended by the previous standard. For this reason, hearing protectors that just provided sufficient attenuation to a particular noise level under the previous standard will now have insufficient attenuation if the

employee exposure duration exceeds 8 hours. As a result, mining companies operating extended shifts will need to review their selection of hearing protectors in light of the new standard.

For the purpose of monitoring audiometry (undertaken to detect temporary or permanent threshold shift), the new standard recommends that the test be conducted during the workshift in order to reveal any temporary threshold shift. The previous standard required 7 hours of quiet before any of the monitoring test audiograms were undertaken. The new standard may require an increase in audiometry testing. The implication of these changes, particularly when and how often testing should be conducted, is currently being reviewed by MOSHAB and industry will be advised on specific requirements in the near future.

The MINEHEALTH System will be changed in two areas to reflect changes in the standard, namely; noise dosimetry and audiometry.

The current guidelines for noise control and personal noise recording will also be revised.

For further information contact Jerry Wilczewski  
Tel: (08) 922 23128.

Curtin Consultancy Services intend to hold a seminar on the new standard AS 1269 - Occupational Noise Management.

For further information contact Freda Jefferson

Tel: (08) 9266 3300



# MECHANICAL SCALER

At the Kanowna Belle Gold Mine 18 Kilometres north east of Kalgoorlie, joint venture partners North Ltd and Delta Gold have purchased the first Jama Scaler to come into Australia.

All headings at the mine are scaled with the Jama Scaler before the bolting cycle, and then check scaled by hand after bolting.

The Jama Scaler was developed in Sweden as a joint venture by three mining companies, Boliden Ltd, Kiruna Mines and North's



Above:  
Jeff Nixon (Senior Underground Supervisor), Ocker Harvey (Trainee Scaler Operator) and Mattias Ahlm.



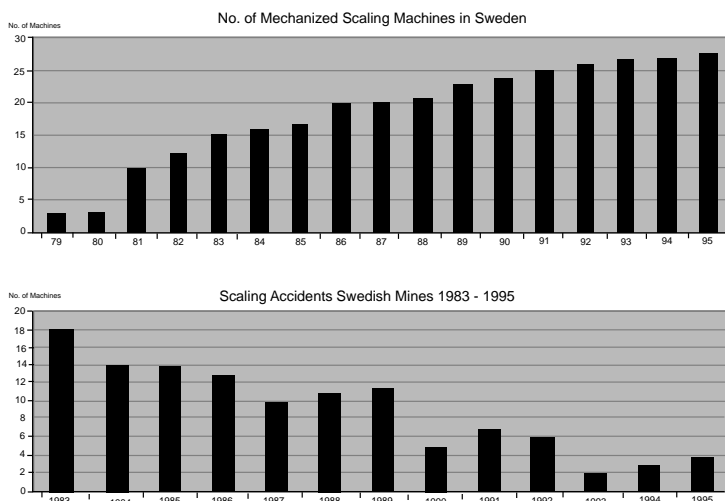
Left: Ready to go underground

Below:  
Note the correlation between the increase in the number of mechanized scaling machines and the decrease in the number of scaling accidents.

Zinkgruvan, with equipment builder Jama Mekaniska AB. It is marketed in Australia by Kalgoorlie based company Rapallo.

To ensure the Kanowna Belle Operators are fully trained in the use of the machine and mechanical scaling techniques Mattias Ahlm an operator from the Zinkgruvan mine has been seconded to Kanowna Belle for three weeks.

## Accident Statistics



# POSEIDON STORY

A feeding frenzy on the London and Australian Stock Exchanges in 1969 sent shares in the little-known mining company, Poseidon NL, scorching from just 80 cents to \$280 in just five months.

The investment hysteria was sparked by Poseidon's announcement of a nickel strike at Windarra, about 30 kilometres north west of Laverton. The gold price was down and nickel was the glamour metal at the time.

Fortunes were quickly made – and just as quickly lost when Poseidon's share price dropped as fast as it had risen.

Although owning a substantial ore body, Poseidon NL was unable to raise enough capital to commit to full project development. WMC joint-ventured with Poseidon in 1972 with the operation producing its first nickel in September 1974. WMC gained full ownership of the Windarra Nickel Project in 1983.

This was a very important site in the corporate history of Australian mining. Millions of people around the world have heard of the Poseidon Nickel Boom. However, very few know where it originated, and even fewer have actually been to the site.



*Demolition in progress.*

At its peak, every day of the year, and around the clock, for 24 years, 600 people worked the mine and processing plant, extracting nickel worth about \$1.3 billion.

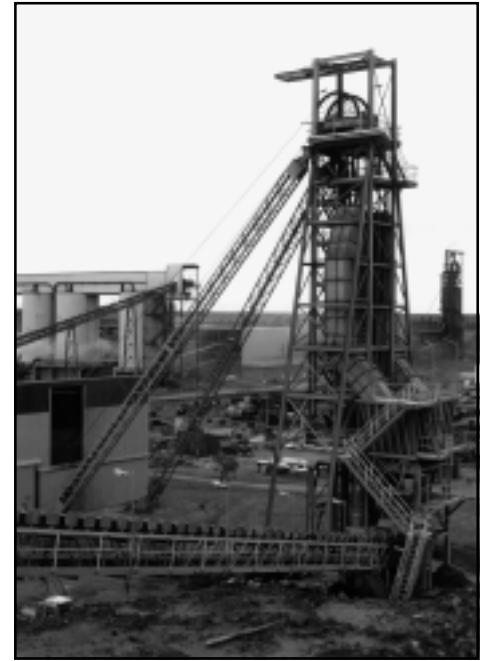
Windarra had a nickel concentrating plant, gold processing mill, a 20-Megawatt power station, full minesite infrastructure facilities, and accommodation for more than 500 people and three tailings storage facilities.

By May 1990, all of the viable nickel ore had been extracted and the Mount Windarra mine was closed. However, the treatment plant continued to process nickel ore from nearby mines at Leinster and South Windarra. Larger quantities of gold ore from Lancefield and Beasley Creek were also processed from 1981 until December 1994 when the Windarra processing plant was closed.

## **DEMOLITION AND REHABILITATION**

At a cost of \$8.5 million, decommissioning of the mine and rehabilitation of the landscape then took place involving an area of 930 hectares.

All mine buildings and structures were removed except; the



*Windarra - as it was.*

headframe structure, the diamond drill rig, all crusher foundations, ore bin and ball mill foundations, and the mine office building.

The Department's Structural Engineer inspected these remaining mine structures and prepared a plan which will ensure the safety of all people who will visit the heritage trail. The plan recommends the provision of barricades surrounding particular steel and concrete structures and the implementation of inspection and maintenance programs.

More than 2,000 kilograms of seed, valued at \$220,000, was collected from local indigenous plants and sown so that regrowth and plant distribution will eventually blend with the surrounding natural vegetation. One hundred trees were hand-planted by students from nearby Laverton Primary School.

## **THE WINDARRA HERITAGE TRAIL**

Reached via a bitumen road and equipped with a car park large enough for tourist coaches and cars with caravans, the Windarra Heritage Trail is also fully accessible to people with disabilities.

---

# PRESERVED AT WINDARRA

---

Dominated by the original Windarra Shaft steel headframe, the trail winds through rehabilitated areas of the former minesite, which is interspersed with concrete reminders of its mining past.

The wide, hardpacked gravel trail follows the gold and nickel production process, with many enamelled signs and photographs explaining the history.

The Windarra Heritage Trail has been vested in the Shire of Laverton, which is also accepting responsibility for the trail's ongoing maintenance. WMC retains involvement for ensuring revegetation occurs to an acceptable standard.

## AWARDS

The Heritage Council of Western Australia has fully accredited the Windarra Heritage Trail. Last year, Windarra won the Greening Western Australia John Tonkin environment award, and is



*Windarra - as it is today.*

currently a finalist for the Banksia Award.

The miners, equipment and the activity may have gone, but the boom memories and a **safe site** remain for the interest and enjoyment of all who visit in the years to come.

And with major help from the miners, the bush is now reclaiming its territory, effectively demonstrating that mining is a temporary land use, and that mining can be compatible with sustainable ecological development.

---

## ATTENDANCE AT ACCREDITED SAFETY AND HEALTH REPRESENTATIVES TRAINING COURSES

---

I have been advised by an accredited course provider of a growing trend for attendees at courses to leave the course at mid-day on the final day of the course, due to flight commitments to return to their respective minesites.

This practice is totally unacceptable.

A most important component is the final part of the course in which all that has been communicated is pulled together, and the critical issue of how to operate effectively in the role is covered.

Constraints of this sort should not be placed on attendees by employers, as the course effectively has not been completed and the individual is disadvantaged.

The statutory obligation to complete the course can be regarded as being invalidated by this action.

Employers should ensure that their employees are provided with the opportunity to complete the course.

Effective discharge of the role of the Safety & Health Representative is extremely important to the operation.

The employer delivers the wrong message by apparently disregarding the effectiveness of the training and the capacity of the Safety & Health representative to perform.

The obligation is to complete the course, not most of it. The time off for employees to attend these courses must be scheduled accordingly.

**J M Torlach**  
**STATE MINING ENGINEER**

# NEW STRUCTURE FOR MINING

## MINING POLICY SECRETARIAT (MPS)

The State Mining Engineer (SME) heads up the new Mining Policy Secretariat (MPS) which is responsible for the formation, administration and promotion of the Mines Safety and Inspection Act and Regulations.

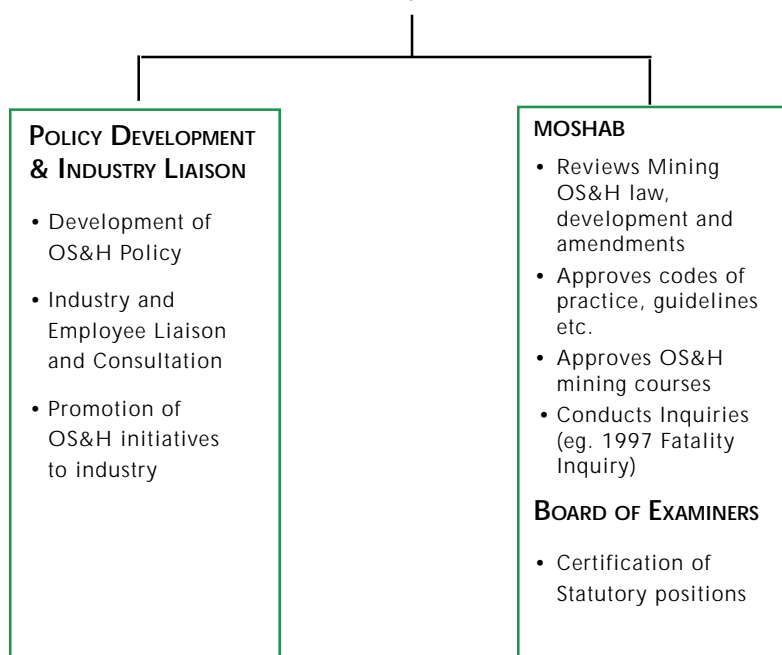
The MPS supports the Mines Occupational Safety and Health Advisory Board (MOSHAB) — a tripartite statutory body providing advice to the Minister for Mines on mining safety and health — and the Board of Examiners. MPS liaises with industry and employee groups and other national and international regulatory authorities to keep abreast of new standards, codes and developments in mining safety to develop policy and keep Western Australia's regulations at the forefront in mining safety and health.

The State Mining Engineer retains the responsibility vested in this position, under the Act, of the enforcement for the administration of the Mines Safety and Inspection Act. The day-to-day function of this is delegated to the General Manager Mining Operations.

The Mining  
the Mine  
the succe  
MO prov  
the bene  
occupati  
to assist



**Jim Torlach**  
State Mining  
Engineer



**Bjorn**  
Assistant Ge  
Occupation  
Engineer

- Occupational Health
- Radiation Monitoring
- Industry Liaison and Information Services

Tel: (08) 9222 3310 Fax: (08) 9325 2280 Email: [mps@dme.wa.gov.au](mailto:mps@dme.wa.gov.au)



# MINING OPERATIONS DIVISION

## MINING OPERATIONS (MO)

Mining Operations (MO) is charged with the task of the implementation and enforcement of the provisions of the Safety and Inspection Act and Regulations, and the environmental aspects of the Mining Act. MO monitors the progress of the implementation of the Act and Regulations through an appropriate mix of audits and inspections. MO provides technical expertise and support to the MPS in the development and refinement of the legislation with the benefit of the experience of its close operational contact with the mining industry and specific research into occupational health, safety and environmental industry issues. MO also develops guidelines and information sheets for the mining industry in achieving conformity with the requirements of the Act and Regulations.



**Bob Hopkins**  
General Manager  
Mining Operations



**Gillgren**  
General Manager  
Occupational Health and  
Mining Safety



**Martin Knee**  
Assistant General Manager  
Mining Safety



**Hugh Jones**  
Assistant General Manager  
Environment

- Engineering Services
- Inspectorate Support
- AXSTAT
- MINEHEALTH

- Regional Mining Inspectorates
- Audit and Inspection Services
- Accident Investigations
- Conformance Advice
- Diesel Registrations

- Environmental Management
- Site Inspections
- Approvals of Mining Operations
- Annual Performance Reviews
- Environmental Bonds

**Tel: (08) 9222 3092**

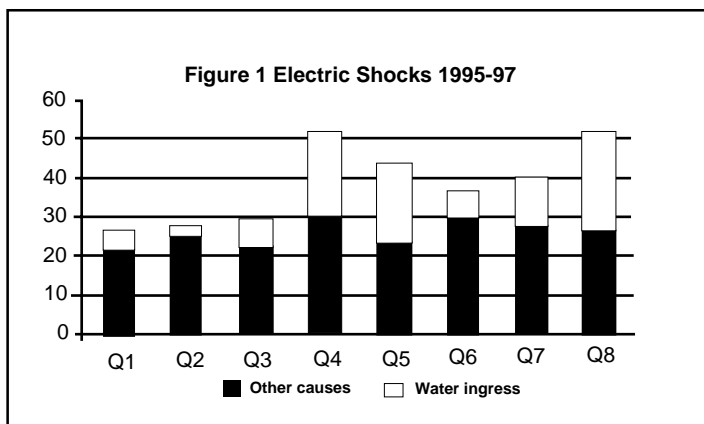
**Fax: (08) 9325 2280**

**Email: [mod@dme.wa.gov.au](mailto:mod@dme.wa.gov.au)**

# WINTER IS HERE

## AVOID ELECTRIC SHOCKS

An analysis of 304 mining industry electric shocks reported in 1995-97 revealed that an alarming proportion (95) were directly attributable to the entry of water into electrical equipment, all of these could have been avoided. The seasonal trend shown in the bar-graph indicates that up to 50% of all electric shocks occurring in winter are caused by water ingress.



**Who is getting hurt?** Have a look at the pie-chart. It seems like the electricians have a very healthy respect for the hazard, while other workgroups naively and unfairly cop it while carrying out their normal work.

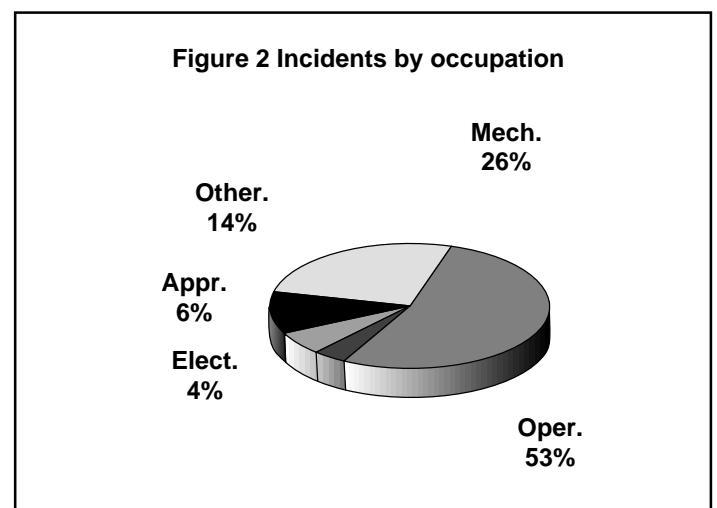
**What needs to be done?** Most defects are obvious and easily recognised by all employees. Other defects can be diagnosed by an electrician.

**DO IT NOW !** Otherwise, next year we will be gazing at another seasonal peak in electric shocks. Over the past 2 years we were very lucky to escape a possible 304 electrocutions.

For further information contact Denis Brown  
Tel: (08) 9222 3546.

Examination of the 95 incidents revealed:

- ◆ 25 were caused by the use or handling of portable electric tools and extension leads that had become wet either by splashing or by being left out in the rain.
- ◆ 23 shocks arose when pushbuttons were operated on stop/start stations and crane pendant controls, that were later found to be full of water.
- ◆ 18 incidents involved general fixed plant such as motors, lighting and switches, all of which had suffered water ingress.
- ◆ 13 resulted from operating equipment or switches with either wet hands or gloves.
- ◆ 8 involved the handling of 'decontactor' plugs that had become internally wet; and
- ◆ 8 others occurred during or after the hosing or cleaning of equipment.



# "WESGARD"

## WELDING VOLTAGE REDUCER

This product is designed to eliminate all risks of electric shock to persons using conventional electric arc welding equipment.

The device is about the size of a shoe-box and connects between the welding power source terminals and the output welding leads. As the name implies, it operates by automatically reducing the open-circuit voltage of the welding circuit to less than 6volts when the welding arc extinguishes, and only applies full welding voltage the moment that welding recommences.

The equipment's internal electronics continuously monitor the electrical resistance of the output welding circuit, and only allows full voltage to be switched on when the measured resistance falls to less than 20 ohms. Conversely, reduced voltage is triggered when resistance increases above 20 ohms.

Taking into account that under the most adverse conditions, the electrical resistance presented by a person receiving an electric shock is in the order of 200 ohms, any personal contact with welding circuits protected in this manner will be completely harmless. A simple comparison of the 200/20 ohm resistance values yields a most comforting and impressive safety factor of 10:1. As well as improving welding safety, the voltage reducer has the following advantages.

- ◆ Can be used with 45-100 volt AC or DC
- ◆ Can be used with any constant current source
- ◆ Has solid - state components
- ◆ Does not affect weld characteristic
- ◆ Has been tested by an accredited WA test station



Whilst good equipment environment and sound practice should minimise risk, conditions such as moisture and confined spaces increase risk. Fatalities and near-hits have already occurred and therefore it is strongly recommended that all managers and employers avail themselves of this technology.

Safety Bulletin No. 23 provides detailed information concerning all safety issues associated with manual metal arc welding.

For further information contact Denis Brown  
Tel: (08) 9222 3546.



# AUSTRALIA IS MOVING!

(OR SO IT SEEMS)

Watch the night sky, even casually, for twenty minutes or so and you will be unlucky not to see at least one man-made satellite passing over. We are aware that long distance telephone calls rely on satellites, but the functions of the many thousands of others are little known. Twenty four of these belong to an American network called **GPS**, or **Ground Positioning System**. They provide a precise, all weather, three dimensional positioning system for anyone who has the appropriate piece of equipment, and a surprisingly large number of people do.

Satellites orbit about the **centre of gravity** of the parent body. In our case the satellites orbit the Earth's Centre of Gravity.

Any position on the surface of the Earth can be defined by its **Latitude**, its **Longitude** and its distance above or below a specific reference surface. In the case under consideration, its height above or below **Mean Sea Level**. The distance of Mean Sea Level from the Earth's Centre of Gravity is 'known' to the satellites and the information provided to GPS users reflects this.

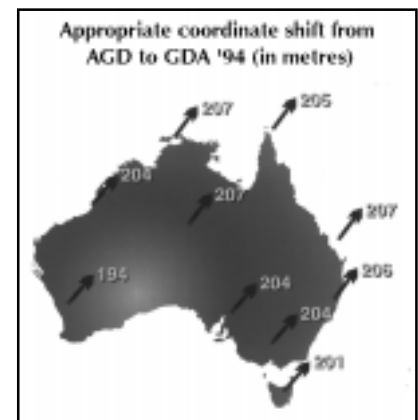
So why say Australia is moving? Well we are actually, north-ish, at the rate of about 3 centimetres a year, because of continental drift. The move discussed here, however, is artificial, in that it is due to a redefinition of where Australia is in order to comply with where the GPS says it should be. A point

worth mentioning is that this process is being implemented internationally so as to create a globally consistent system. To quote from the ICSM, (**Intergovernmental Committee on Surveying and Mapping**), "**The Geocentric Datum of Australia, (GDA), provides an internationally compatible coordinate system for all geographic data**". In conforming to this system, new maps will show our continent 'moving' approximately 200 metres to the northeast. (See accompanying diagram).

Some people may well ask, "Why raise this issue in a publication devoted to safety on mines?" It is no secret that our State is pock marked with old mine shafts. A displacement of 200 metres or so is enough to cause problems if you wish either to avoid an old shaft or to find it. With some models costing as little as \$350, the 'hi-tech' nature of a GPS unit is no deterrent to its widespread use. Prospectors, drilling crews, exploration geologists, 4WD enthusiasts, station workers, bushwalkers and a host of other people, now rely on these devices to find their way.

The history of the Australian bush is studded with stories of people dying close to sources of help. It is eminently possible to be 200 metres from a road and never know it is there. Apart from these applications it is worth noting that a major mining company in Western Australia is already

developing a driverless open pit mine which relies on GPS as a guidance system.



The principal hazard will arise if the information provided from the satellites is not compatible with the grid system on the map in the possession of the user. GPS units currently in use are calibrated for the existing grid. The positions they now give will be different from GDA based ones. Owners of GPS units should check their instruction manuals or contact the supplier regarding recalibration of their instruments. The bottom line is that nobody in the mining industry can remain safely in ignorance of this development. Implementation is planned to occur during the year 2000, with completion projected for 01-01-2001.

For further information contact Patrick Burke Tel: (08) 9222 3264.

## BIOLOGICAL MONITORING OF MINE EMPLOYEES

Specific provisions for biological monitoring were introduced in the Mines Safety and Inspection Regulations 1995 (Regulation 3.28). The new **Biological Monitoring Guideline** published by the Department of Minerals and Energy integrates biological monitoring in the mining industry with the Health Surveillance Program for Mine Employees.

The present system where some mining companies conduct their

biological monitoring through the Department, with the cost of the analysis paid for by the State or Commonwealth Governments, while others conduct monitoring independently of the Department is being replaced.

In accordance with Regulation 3.28, all mining companies are required to conduct biological monitoring for employees exposed to lead, mercury, arsenic and thallium, or for other contaminants

as directed by the State Mining Engineer. Biological monitoring is required to be conducted in accordance with the guideline, with respect to sampling methods and frequencies, with the results submitted to the State Mining Engineer via the Biological Monitoring Result forms.

For further information contact Dr Brian Galton-Fenzi Tel: (08) 9222 3650.



---

# 1998 SURF ACE EMERGENCY RESPONSE MINE RESCUE COMPETITION

---

KCGM mine rescue team Trail Blazers, recently won the 1998 Surface Emergency Response Mine Rescue competition held at KCGM's Mt Percy Mill and Hannans North Tourist Mine on 2 - 3 May 1998.

The Trail Blazers Team won the Haz-Chem, Rope Rescue, Team Skills, Theory, First Aid and best team sections. Jayson Bebek, the captain of Trail Blazers won the best captain award for the competition. Craig Patu, captain of KCGM's second team Gold Diggers was runner up in the best captain award.

KCGM Head of Mine Rescue Rodney Goldsworthy said the results from both teams were an excellent achievement and a reward for all the time, effort and hard work each team member put in during the weeks leading up to the competition. A majority of the training was performed after work in their own time.

The top five placing's for the competition were: First – Trail Blazers, second – Pannawonica, third – Yilgarn Star, fourth – Kundana, and fifth – Gold Diggers.



---

## PEOPLE AND PLACES

---



*WMC Fatalities Taskforce*



*Bruce Anderson and Jamie Wride  
AWP Fortnum — Tea for Two*

# WHAT'S ON

## Australian Centre for Geomechanics



### MINE SEISMICITY AND ROCKBURST RISK MANAGEMENT IN UNDERGROUND MINES – PART II

Perth, 3-4 September 1998

Follows on from the Part I workshop held 30-31 March 1998.

The workshop will present the technical issues involved in designing, installing, monitoring, transferring and interpreting the data from currently available systems.

### ROCK SLOPE DAMAGE CONTROL (BLASTING)

Perth, 30 September to 2 October 1998

Examines the mechanisms of rock breakage that are operating within a blast and considers means of minimising wall damage adjacent to the blast. The influence of geological structure and application of field control to verify the application of design parameters are detailed, and common techniques of wall control are covered.

### EXCAVATION ENGINEERING FOR UNDERGROUND MINES

Perth, 15-16 October 1998

Structured to provide a mix of the theoretical and practical aspects inherent in safe and efficient underground excavation practice. Involves assessment of underground mining methods and geomechanics, fundamentals of rock mechanics, methods of stress analysis, excavation design, excavation support, and blasting underground.

## MINESAFE International

COMBINING OUR RESOURCES FOR IMPROVING SAFETY AND HEALTH IN THE  
INTERNATIONAL MINING WORKFORCE

Sun City, South Africa, 28 September to 2 October 1998.

The first ever joint collaboration on mining occupational health and safety.

Sponsored by the Chamber of Minerals and Energy of Western Australia, the Chamber of Mines of South Africa and the Governments of both Western Australia and the Republic of South Africa.

Full details are available on the Internet.

Contact: Dr Mike Gouws  
Chamber of Mines of South Africa

Fax: 27 11 498 7429

E-mail: [mgouws@bullion.org.za](mailto:mgouws@bullion.org.za)

Internet: <http://www.mining.co.za/minesafe.htm>

## THE AUSTRALIAN CENTRE FOR WORK SAFETY

Distance education materials are now available which allow students who have gained Certificates 3 and 4 of the ANTA national curriculum in occupational health and safety to complete the national diploma in occupational health and safety. Some students may be able to gain entry through recognition of prior learning (RPL). The materials consist of five modules:

- Risk Management
- Research Profile
- Work Placement
- Safety Engineering
- Safety Programs

Contact: Roy Hegney

Tel: (08) 9267 7353

Fax: (08) 9267 7356

Email: [thornl@carlisle.training.wa.gov.au](mailto:thornl@carlisle.training.wa.gov.au)

## MINING FATALITIES TASKFORCE

In response to a request made during the public forums of the Mining Fatality Inquiry held late last year, MOSHAB will conduct its next meeting in Kalgoorlie on 5 August. The implementation of the Priority 1 recommendations will be announced at this meeting.

On 6 August the Mining Fatalities Taskforce, which conducted the inquiry, will hold the six-month follow-up open forum to report on the Recommendations of the report and the progress of their implementation.

For further information contact Tracy Long Tel: (08) 9222 3129

# STAFF CHANGES

Welcome to **Bjorn Gillgren** who has been appointed to the newly created position of Assistant General Manager (Occupational Health and Engineering Safety).



*Bjorn Gillgren*

Welcome also to two more recruits from South Africa, **Marius Hanekom** and **Rod Young** who have been appointed as District Mining Engineers (Kalgoorlie).



*Marius Hanekom*

Congratulations to **Peter Capon** on his appointment as District Mining Engineer (Kalgoorlie) and to **Gary Hussey** on his appointment as Senior Occupational Safety and Health Inspector (Collie).



*Rod Young*

Best wishes to **Greg Hewson** who has resigned from the Department after 12 years as Principal Scientific Officer to take up a position with WMC in Brisbane.

# NEW PUBLICATIONS

## MOD Publications

**Safety Bulletin 37:**  
Shiftwork and Rostering Practice – March 1998

**Safety Bulletin 38:**  
Use of Remotely Controlled Mobile Plant in Underground Mines – May 1998

**Safety Bulletin 39:**  
Vertical Opening Development in Underground Mines (Rise Development) – May 1998

**Safety Bulletin 40:**  
Induction, Training and Assessment of the Competency of Employees in the Mining Industry – May 1998

**Significant Incident Report 92:**  
RC Drill Rig 3" Sample Hose Connection: Serious Accident – February 1998

**Significant Incident Report 93:**  
Ventilation Doors: Fatal Accident – May 1998

## OHS Workbooks

This series of twenty-four workbooks will help students and those with an interest in improving their knowledge of OHS issues. The books are available individually or in packs. The publications are based on an OHS module of the national curriculum for Certificates 3,4, and Diploma.

For further information contact: Training Publications:  
Prospect Place, West Perth

Tel: (08) 9227 3360 Fax: (08) 9457 6487

## FACT SHEETS FOR SHIFTWORKERS (MARCSTA)

For further information Tel: (08) 9313 5466

# GUIDE TO POSITIVE PERFORMANCE INDEXING NOW AVAILABLE

The continuing reduction in the total number of lost time injuries in the Western Australian mining industry over the last decade and the consequent improvement in the lost time injury frequency rate for most mining operations has eroded the importance of injury statistics as a measure of safety and health performance in the industry.

The industry has long realised that injury statistics are at best only a rule of thumb indicator of injury trends and provide no meaningful direction for the implementation of positive initiatives for the elimination of circumstances and behaviour that result in workplace injuries.

The Chamber of Minerals and Energy's Occupational Health and Safety Committee decided in early 1997 to develop a guideline that would assist in the identification of the major factors which, if addressed on a systematic basis, would facilitate a positive performance culture on mine sites.

The guideline will not cure all safety and health problems in the mining industry but can be used as a resource to implement a pro-active management culture – a culture of prevention requiring the involvement of the total workforce.

This guideline developed by the industry for the industry is now available from the Chamber of Minerals and Energy  
Tel: (08) 9325 2955.

# INCIDENT ALERT

The front tyre (No 1 position under the cab) of a scraper blew out as the scraper was returning to the pit after dumping its load. A large flap of tyre smashed the mudguard out of the way then struck the rear of the operator's cab which resulted in bent window frames and a shattered window. It also struck the operator on the neck and back causing him to lose consciousness. The scraper then hit the windrow and rode along it for 20 metres before going over the windrow and coming to rest on the other side.

Suffering from severe lacerations and bruising the operator was taken

by ambulance to hospital where he underwent surgery to remove a ruptured spleen.

The cause of the blow out is undetermined at this stage; the tyre was 40% worn, the scraper's speed was approximately 40km/h, the weather was fine and the road conditions were good.

## COMMENTS AND REMEDIAL ACTION

Several similar incidents have occurred in the past some resulting in injuries to scraper operators. The State Mining Engineer was concerned enough in March 1991 to issue Significant Incident Report No 21 "Operator Safety - Earthmoving Scrapers". The comments and remedial action recommended from that report are still relevant and have been reproduced below.

*All operating earthmoving scrapers should be surveyed to assess the safety of operators should a tyre failure of this type occur. If the survey shows a potential hazard then it is recommended that the scraper is fitted with some form of protection, such as a grid over the rear window. At least one supplier of earthmoving equipment offers a protection grid, for scrapers, as an optional extra.*

*In order to protect the operator the grid should be designed, constructed and installed in a manner that will function as a*



*Shredded Tyre*

*deflecting and yielding structure which will prevent any part of the rubber tyre from striking the cab rear window.*

*Prior to the attachment of any grid to the cab, it is recommended that the vehicle dealer/manufacturer be consulted to ensure that the integrity of the ROPS is not weakened and /or its certification revoked.*

*Furthermore, the grid should not significantly restrict the operator's rear view and it should allow for ready access to the window for cleaning purposes.*



*Damaged Operator's Cabin*