



MINESAFE

ISSUED BY THE MINING ENGINEERING DIVISION OF THE DEPARTMENT OF MINERALS AND ENERGY (WA)

DIFFERENT TRUCK, DIFFERENT SITE, SAME STORY



(Story on Page 2)

“ONCE MORE WITH FEELING”

The overall improvement in safety performance in Western Australian mines has been reflected in the marked drop in reportable accidents over the past year.

Unfortunately, the downward trend is being compromised by periodic accidents and incidents which are characteristically repetitive in nature and of common experience.

Haultrucks have been falling over edges, contacting overhead powerlines, and crushing light vehicles. Drill rigs have been hitting powerlines and falling through ground into old underground workings. Trucks have rolled, and have slid in wet conditions causing injury to the operator. Fortunately in most cases serious injury has been avoided.

The wide distribution of these accidents across all sectors of the industry indicates that all mines are vulnerable, and complacency about the merits of individual safety programs must not be allowed to detract from the hard and ongoing work attached to eliminating the practices that lead to these accidents.

Operators need to take a good hard look at the underlying causes of these accidents - particularly those involving powerlines and for which there is no excuse. Each one brings this industry one step closer to an electrocution or death or injury from tyre explosions. It



Ignore the signs, bypass the windrow and over the edge.

has happened in Queensland, and it can happen here.

Training programs for drivers should emphasise the level of risk inherent in contact accidents and explosions. Understanding “why” is as important as knowing “how”. Without education on safety, drivers will continue to put themselves at risk. The financial cost is also a burden for the industry as this year alone, hundreds of thousands of dollars have literally gone up in smoke.

Back injuries have also made an unwelcome return and in 1991 made up 25% of all injuries in metalliferous mines. Of the 200 LTI's (Lost time injury) in the coal industry for the same period, 40% were attributable to back injuries. The

coal industry injuries while travelling in open cut and underground accounted for 23% followed by injuries caused by surface mobile plants and materials handling. Metalliferous miners recorded an astonishing 75% due to strain, followed by pain and bruises or contusions. These figures are unacceptably high, and the issue warrants close attention, and effective remedial actions.

Recurring incidents and injuries should be placed at the top of the agenda at safety meetings at every level, if the industry is to continue to maintain the momentum and continue to bring down the accident rate.

EDITORIAL

Frontline Supervisors are feeling the pressure as their responsibilities grow in direct proportion to the obligations of new legislation and technical innovation.

The nature of the job requires a corresponding commitment from Management to ensure that supervisors have regular access, not only to technical training but also training that targets individual job requirements related to the ever increasing demands of both safety and health issues.

Obviously, it is not practical for numbers of Supervisors to be released from the job for extended periods of time. Modern Communication networks may make absence unnecessary as training and education can easily be delivered to the minesite.

Supervisors need to be both fully informed and competent in order to feel comfortable about the decisions they make - many are not, and react to the pressures by either leaving the industry or returning to a former job.

As well as industry based education and training, operators should make better use of the network of community based resources that are, with few exceptions, reasonably accessible to most minesites.

Catherine Stedman
Editor

SEIZE AND HOLD

RGC Mineral Sands Limited are actively promoting a back-care campaign for all their employees, but especially for those involved in their Capel operations.

Safety officers Rob Paley and Bob Winn have identified a number of potential back-injuring activities that routinely occur across the Capel site, and are endeavouring to decrease their possible impact through a program of education and training, and by introducing new technologies into the workplace.

One such new technology is a vacuum lifting system capable of lifting loads of up to 120 kilograms. The device is powered by an electric motor that holds and elevates the load with little effort being expended by the operator.



Rob Paley puts the vacuum lifting system through its paces

All kinds of loads can be lifted via a range of interchangeable lifting heads and attachments.

The system has in-built safety features such as a controlled release in case of a power failure, and a no-release until the load is supported.

Further to these safety features, the device is capable of reducing a multi-person operation into a single person operation, making the demanding task of manual lifting safer and more efficient.

Pictured is RGC Capels' safety officer Rob Paley using the device to load 50kg bags of zircon onto an ergonomically designed pallet table.

The spring-mounted table is designed so that once a layer of bags is stacked on the pallet, the table top lowers, maintaining the working height of the pallet.

This action further reduces the bending requirements of the operator, and decreases the possibility of back strain or injury.

For further information contact Rob Paley or Bob Winn on (097) 271 500.

EMERGENCY EVACUATION HELICOPTERS & THE RFDS

The exceptional rains experienced in many regions of WA during the first 6 months of 1992 resulted in excessive flooding, long periods of closed roads and airstrips, and some mining operations being isolated for several days.

Fortunately there were no emergencies requiring evacuation of personnel from isolated minesites. Even so, the fact that full roster changes of fly in/fly out personnel could not be made on at least two occasions, raised the question as to what would happen if a miner were to be seriously injured during such an event.

Representatives from the Chamber of Mines and Energy and the Department of Minerals and Energy met with the General Manager, Mr Terry Jorgensen, of the Royal Flying Doctor Service (RFDS) on the 29th June to discuss this question.

The outcome of this meeting was a commitment by Mr Jorgensen for the Royal Flying Doctor Service (Perth) to take on the responsibility of co-ordinating emergency helicopter evacuation on a mine when no other means of access is feasible.

This co-ordinating role will apply across the State, regardless of which of the three flying doctor services operates in the area where the need for an emergency evacuation by helicopter arises.

The RFDS (Perth) maintains an inventory of helicopters operating in the State and their current locations, and has access to all of the major helicopter owners in the State.

The RFDS Jandakot Operations Room is manned on a 24 hour/day, 7 days/week basis and can be contacted for an emergency evacuation on (09) 332 7733. Remember, the use of local mine names may cause confusion - always give the latitude and longitude of the mine airstrip for all RFDS call outs.

Should such an evacuation ever be necessary, arrangements will be made for a helicopter to transport the patient

to the nearest operational airstrip for transfer to hospital by fixed wing aircraft.

Once a helicopter is on its way, it will be under the control of the Civil Aviation Authority (CAA) and it will be necessary for the mine manager to ring CAA at Perth Airport - Operational Control Centre on (09) 476 8640 and provide landing instructions for the helicopter pilot.

Contrary to popular belief, helicopter pilots will not put their craft down on any vacant piece of ground. A well-defined, well lit level area with a hard surface and clear approach path is essential, particularly for night time landings. All



Terry Jorgensen, General Manager, RFDS with one of his aircraft at Jandakot Airport.

WOMEN WORKING WITH INORGANIC LEAD

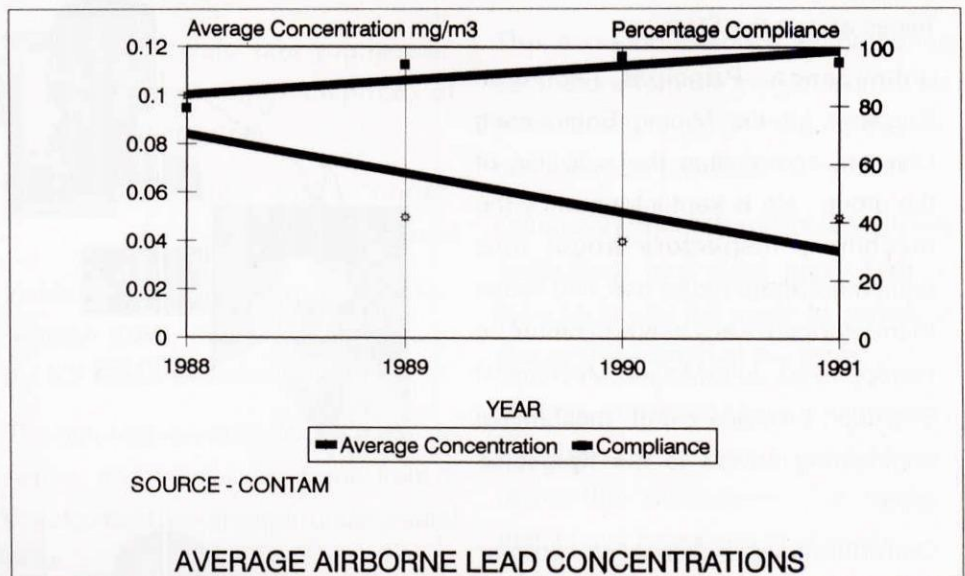
managers of isolated mines who do not have access to an all-weather airstrip are urged to establish a helicopter landing site (HLS). It may never be used, but on the other hand it may well save a life and the cost is very small. For those who are encouraged by this article to proceed with the construction of a HLS, a copy of CAA specifications may be obtained from your nearest Mines Inspectorate office.

Once you have constructed your HLS, advise the RFDS of its existence and give them its latitude and longitude.

Before closing, I would like to remind all mining personnel of the importance of the RFDS to those who live and work in isolated communities. Many of you may have read of the problems experienced earlier in the year by the RFDS when it had three aircraft damaged in a period of about 3 weeks: one was tipped on its nose while trying to land on a rain-soaked strip, another received hail damage and a third hit a kangaroo on landing. The damage bill for those three aircraft exceeded \$900,000. The RFDS exists on grants, donations and fund raising and anyone out there who needs a fund raising cause or desires to donate, their contributions will be more than welcomed by any one of the three flying doctor services.

G J Dodge

Deputy State Mining Engineer



To avoid conflict with the Federal Discrimination Act, women have been permitted to work with lead in Western Australia since 1988.

However, we know that women of child bearing age who are exposed to lead may suffer adverse health effects such as miscarriages.

Women who are working, or about to commence working, within industries using lead should be made aware of the information contained in the draft Worksafe National Standard and Code of Practice on the Control and Safe Use of Lead at Work.

Although excessive exposure to lead is a hazard for all persons, it represents a serious health risk for the foetus - even

when conception occurs some time after exposure.

Although there is no prohibition for women to be employed in lead work, the following precautions should be considered, as it is not known exactly what level of exposure could cause miscarriage or foetal abnormality:

1. Female employees are to be informed of their increased susceptibility to lead and the adverse effects of lead on pregnancy; and
2. Female employees are to notify the employer should they intend to conceive or have reason to suspect they are pregnant. In such cases, the women shall be removed from working with lead.

(Submitted by K C Wan, Mines Medical Officer)

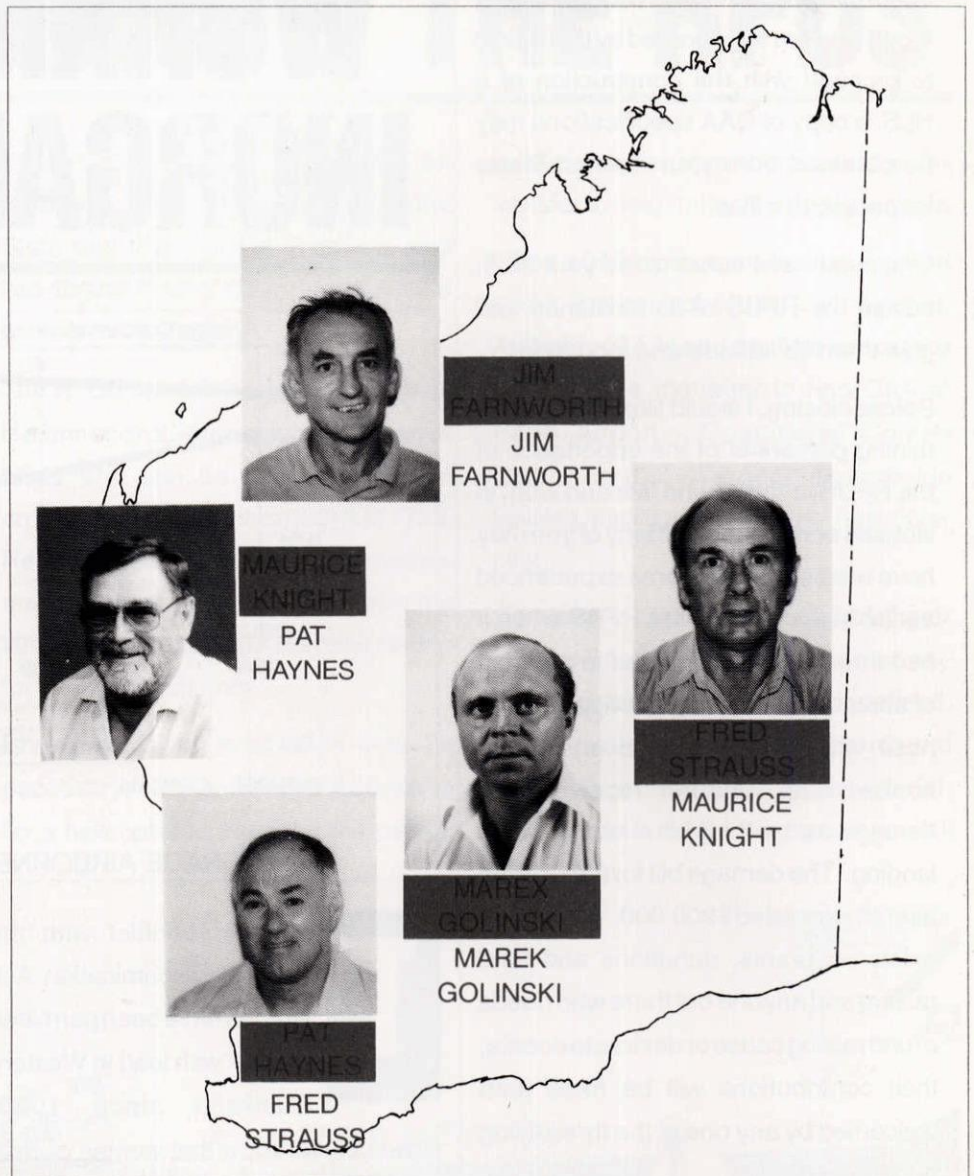
MEAN MACHINES ...

Not many people realise that the Mining Engineering Division has its own not so secret intelligence group known as MI5. This group consists of five highly trained machinery inspectors, who provide a service to mines across the State.

John Jance, Principal Technical Engineer for the Mining Engineering Division, coordinates the activities of the group. He is kept informed by the machinery inspectors about new equipment approved for use, and keeps them informed of any new equipment he has approved. John McGee, Mechanical Engineer, provides expert mechanical engineering advice to the Kalgoorlie office.

One of the many functions of an inspector is to inspect and carry out testing on all newly installed items of classified machinery such as boilers, pressure vessels of certain volume and pressure, mobile cranes, overhead electric travelling cranes, monorails and hoists and to ensure that regular safety surveys of all such equipment are carried out on a prescribed regular basis.

Mechanical equipment and attachments used for excavating, conveying, dredging, loading, crushing, screening, processing, smelting and refining also come within their ambit. Machinery inspectors inspect equipment used in mining operations to load and transport materials, such as road haulage vehicles, excavators, power shovels and privately owned railways.



Machinery inspectors are often called upon to wear another professional hat - that of adviser. A lot of time is spent providing advice to workers and managers about their responsibilities under both the Mines Regulation Act and the Occupational Health, Safety and Welfare Act. On behalf of DOHSWA, machinery inspectors are responsible for testing applicants wishing to obtain either a Crane Driver's Ticket or Boiler

Attendant's Ticket on minesites.

These men spend many long hours on the road, but as Special Inspector of Mines Pat Haynes explains, there are many rewards: one is the opportunity to observe first hand the various types of equipment currently used on minesites; another is meeting other mining professionals with different areas of knowledge and expertise. Together they make mines safer places to work.

LET'S TUCK IN

So far this year, the Inspectorates have reported a number of incidents and near misses involving drilling rigs, and operators wearing loose or ill-fitting clothing.

Machinery Inspector Maurice Knight advises that all operators of moving machinery should ensure that they are correctly dressed - which means:

- * buttoning long sleeved shirts at the wrist
- * tucking trouser legs into workboots
- * wearing a net (long hair) and tucking your hair under your safety helmet.
- * tucking loose shirts or singlets into the waistband of shorts or trousers.
- * avoiding customised clothing - ie "cut offs"

Remember that jewellery is also a potential 'catching' hazard. If jewellery must be worn, keep it protected by clothing under a shirt or gloves.

DETONATORS - A LOAD OF OLD RUBBISH?

Be careful how you handle, store and dispose of detonators.

Recently 24 "nonel" detonators were discovered inside a used AMEX bag in a broken wooden pallet returned with others to the ICI AMEX Manufacturing site.

The detonators were part of a made up series, and most likely came from a development heading in an underground mine.

The common practice of gathering detonators from the magazine in an old product bag is dangerous, as the bag can easily be mistaken for rubbish.

Detonators should be collected only in a dedicated, approved carry bag or receptacle and put aside for re-use or proper destruction at the mine.

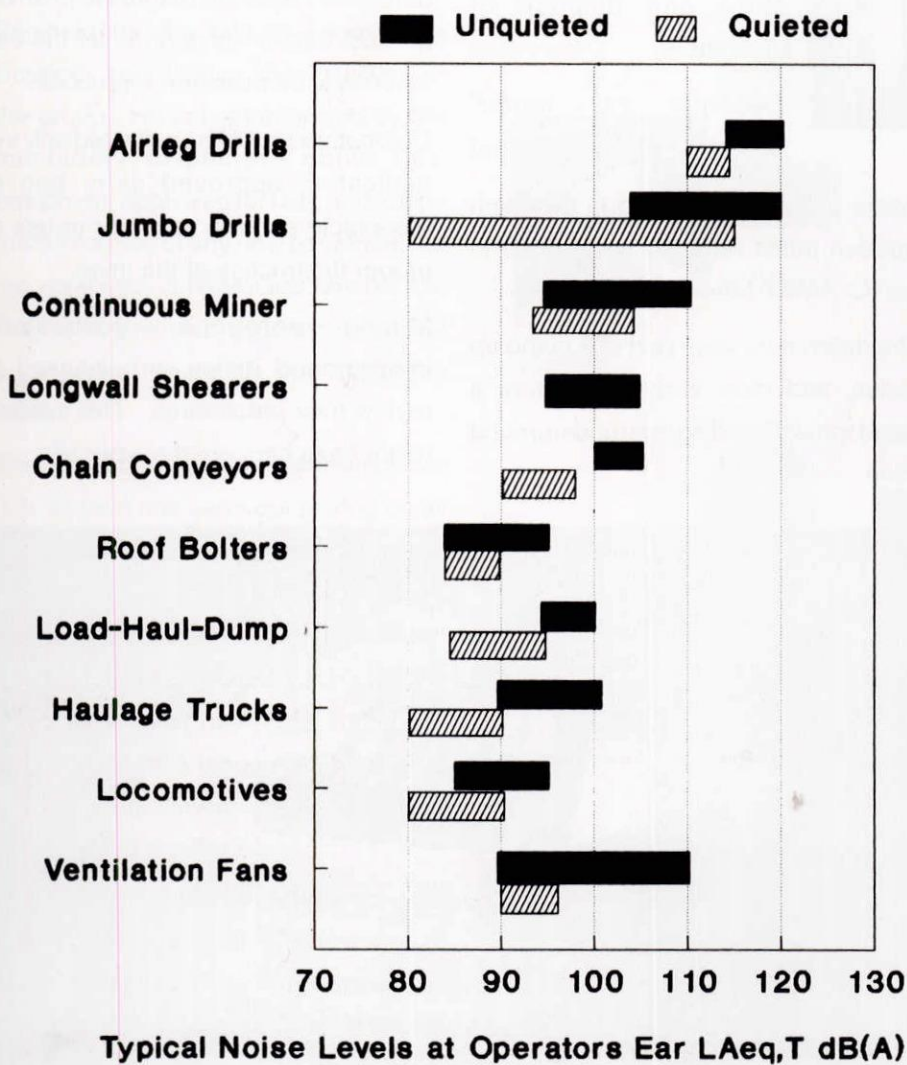
Mining operations - particularly underground mines, are advised to review their procedures. This incident might have happened at your site.



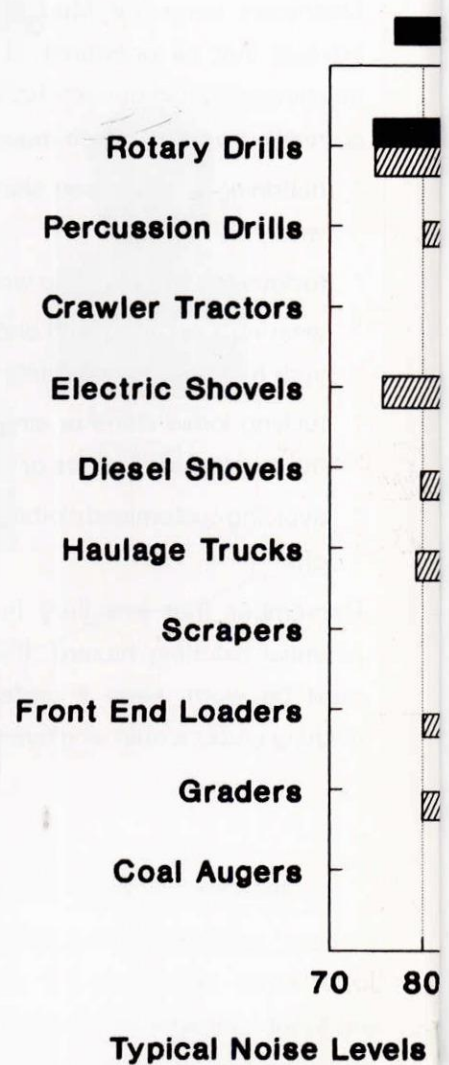
Explosives do not mellow with age - DISPOSE OF THEM APPROPRIATELY.

TYPICAL NOISE LEVELS

UNDERGROUND Mining Equipment

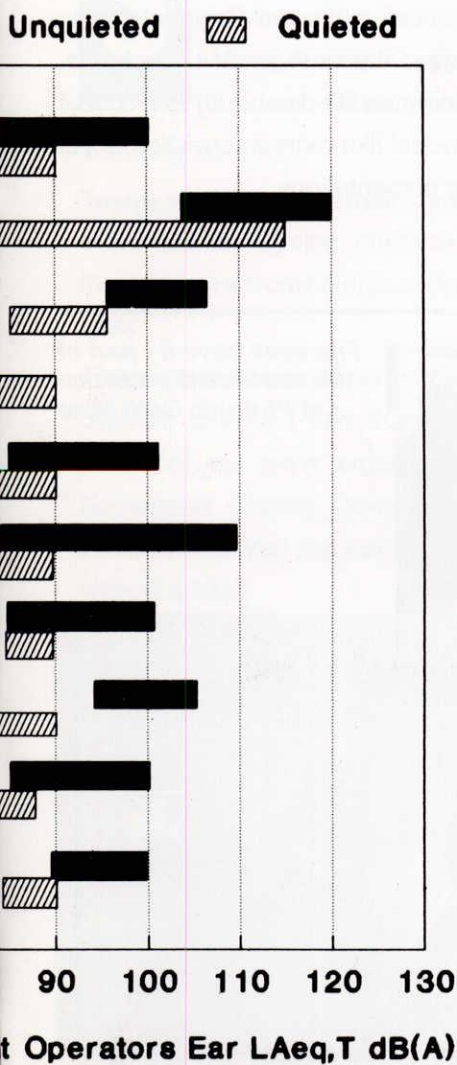


SURFACE Mining Equipment

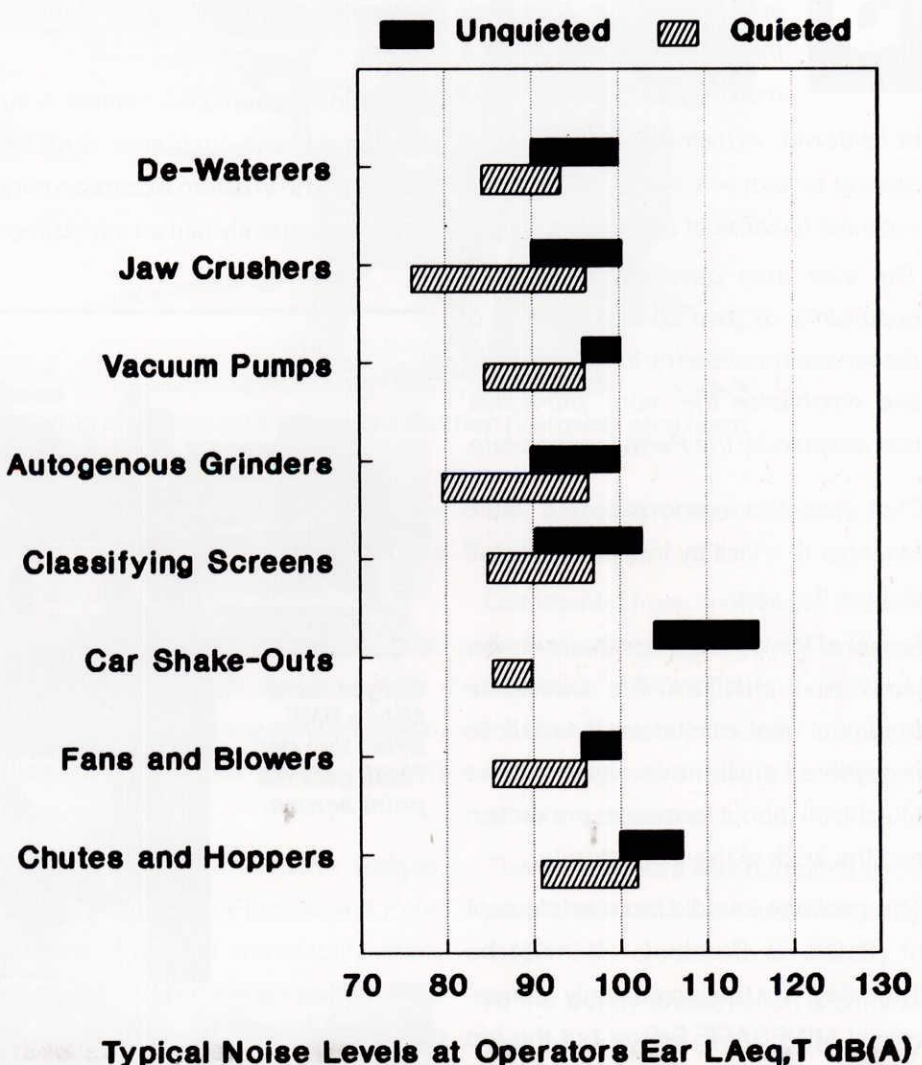


S ASSOCIATED WITH ...

FACE Equipment

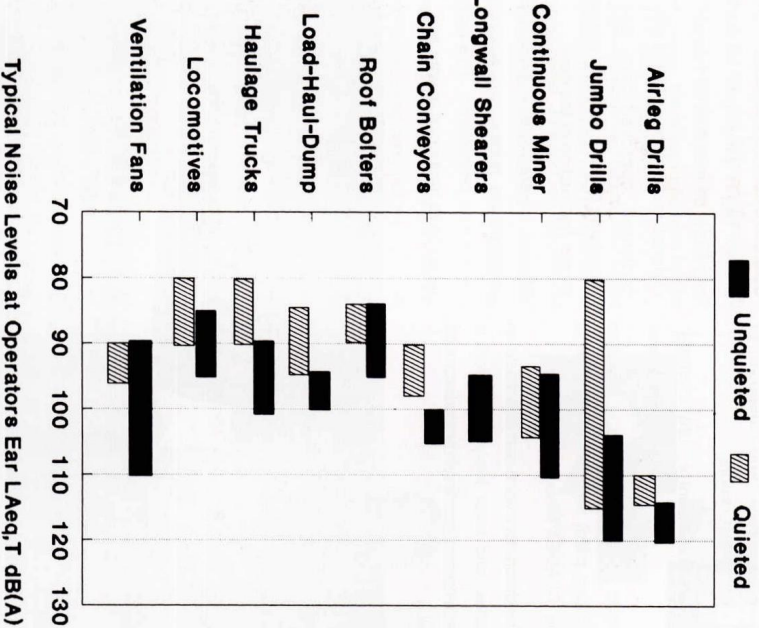


PROCESSING PLANT Equipment

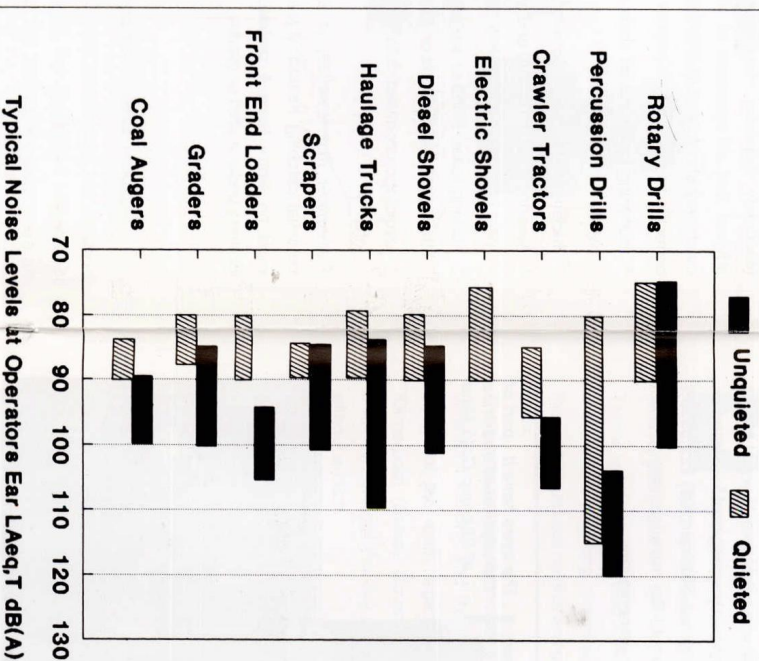


TYPICAL NOISE LEVELS ASSOCIATED WITH ...

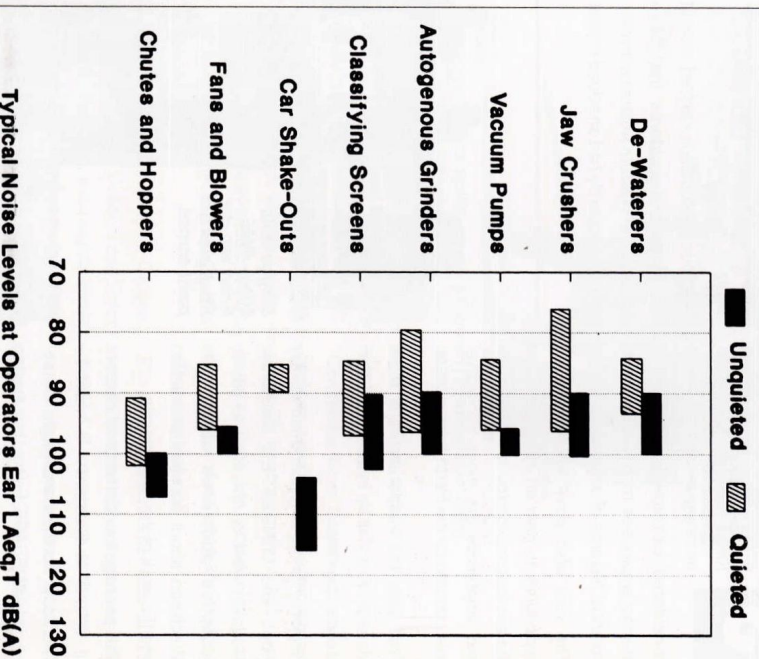
UNDERGROUND Mining Equipment



SURFACE Mining Equipment



PROCESSING PLANT Equipment



WE ARE FROM THE GOVERNMENT - AND YES, WE DO WANT TO HELP YOU

Several safety representatives have since approached me to see if these visits are to be on a more regular basis, as it was considered extremely beneficial in making employees more aware of the potential hazards of open cut mining.

The visit also gave employees an opportunity to gain an appreciation of the services provided by the Department and emphasise the more 'pro-active' role adopted by the Perth Inspectorate.

That was the response of a Mine Manager to a visit by Inspectorate staff in June this year.

Regional Mining Engineer Brian van der Hoek and MINESAFE's Catherine Stedman went on the road to talk to receptive audiences across the Murchison about accident prevention and the work of the Inspectorate.

This package tour did have an element of "If this is Bluebird - it must be Thursday!" for the increasingly hoarse-voiced MINESAFE Editor, but the trip confirmed the value of face to face exchanges about safety issues.

The presenters, and the managers, supervisors and health and safety representatives who attended the sessions learned a good deal from each other, and Catherine has since returned

to some mines to talk to all mine employees including, at one site, two Telecom employees who happened along.

The slide presentation centred around accidents and incidents that have happened in Western Australian mines, and consequently had an added impact

and interest which was reflected in the discussion during and after the sessions.

Please call either the Regional Mining Engineer at your regional inspectorate, or Catherine Stedman (09) 222 3538, if you would like more information about these presentations.



The eyes have it - part of the captivated audience at Plutonic Gold Mine

Gidgee Gold Mine - RME Brian van der Hoek gets his point across.



Peak Hill Resources - Scarcely time for smoko - one of those Minties moments Outside the lecture room an inspired crowd continues discussions.

MURCHISON SURFACE MINES RESCUE COMPETITION

Six enthusiastic teams participated in the Chamber of Mines Murchison Surface Mines Rescue Competition held in Meekatharra on 16th August, 1992.

Teams were tested on their knowledge of first-aid, fire fighting, chemical spills, theory, rescue from heights and general skills.

The events ran simultaneously at three different locations and thanks to the efforts of the main organiser Steve Kamarudin (Safety Co-ordinator for Dominion Mining) the day progressed without a hitch.

The general aim of the day was to encourage enthusiasm and to broaden



What lies over the hill?



Treating chemical spills - needs a Carmen (Vetrone) cool team.

knowledge in an atmosphere where teams could learn from each other in a friendly competition.

All participants showed good teamwork, enthusiasm and high standard skills - this was evident by the even competition. There was only 43 points (or 8%) variation in results.

Mine Managers Tim Gooch - Gidgee, Simon Thompson - Plutonic and Peter Williams - Peak Hill, were highly visible supporters. Representatives from RGC (Renison Goldfields Consolidated) also put in an appearance as observers - it is good to see that the Mineral Sands Industry is taking an interest.

Participation by other operations and organisations in rescue training will benefit the Mining Industry as a whole and efforts to get more teams in training

and regional competition are to be commended.

Comments from interviews revealed dedication and commitment to learning new skills which not only could be used to save lives but would also prove interesting and enhance knowledge in other areas as well.

The commitment was demonstrated by several team members who went without their R & R to compete on the day.

At the trophy presentation a comment was made by Jim Griffin, District Mining Engineer, that in essence all teams were winners on the day - it is with this attitude that this competition achieves its just rewards. Congratulations to the teams who participated: ASARCO 1, ASARCO 2, GIDGEE, BIG BELL, HILL 50 and PLUTONIC.

GOLDFIELDS MILESTONE

A Caterpillar 769C truck used at the Victorious decline at Ora Banda has become a newsworthy statistic for all the right reasons.

The diesel engine permit for the vehicle brings the number of permits issued in the Kalgoorlie Inspectorate to 2000 since diesel engines were introduced 28 years ago!

The first permit issued in this State was for a Caterpillar Traxcavator at the Mt Charlotte mine on 13 July 1964. Since then the design, construction, efficiency and safety features of diesel engines

has improved considerably, and ongoing research and communication between operations, the Department and manufacturers ensures that high standards are maintained.

Contact the Ventilation Inspectors in your local inspectorate with any queries you may have about permits and use of diesel engines underground.

Kalgoorlie Tel. No: (090) 219 411

(090) 219 419

Karratha Tel. No: (091) 868 243

Perth Tel. No: (09) 222 3132

A NEW SPONSOR

We extend our thanks to Della's Print who have agreed to sponsor MINESAFE for our 1992-93 issues. Arthur Della takes a

keen interest in our publication and we know MINESAFE will be in good hands. Thank you for helping us.

HEARING PROTECTION & RADIO COMMUNICATION

Radio communication can be a problem for radio operators working in noisy areas where hearing protection is required.

Removing hearing protection to use or listen to the radio is not the solution, but using muffs with built-in speakers that restrict the speaker volume may be the answer.

Jerry Wilczewski, Noise and Vibrations Officer, Occupational and Radiation Health Section has been researching the problem, and anyone experiencing this particular difficulty can call Jerry on 222 3128 to discuss possible solutions.



Q's & A's

QUESTION: I am currently employed as a mineworker and get a lot of exposure to the sun. What can I do to avoid heat stress?

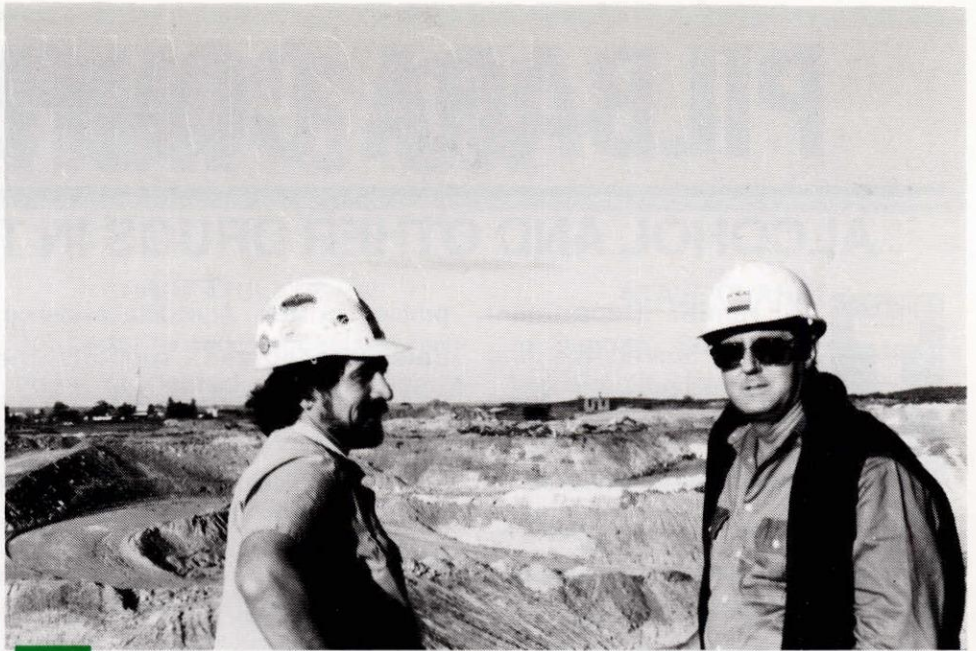
ANSWER: There are a few simple methods that can be followed to protect against heat stress:

- Wear suitable protective clothing;
- Use a recommended sunscreen;
- Reduce the heat load by replacing fluid loss; drink more water, juices and other non-alcoholic drinks. Drinking 100-200 ml of water at frequent intervals will replace fluid lost through perspiration;
- Have rest pauses in a cool place;
- Increase air circulation; and
- Maintain a healthy lifestyle.

QUESTION: Are salt tablets effective in preventing heat stress?

ANSWER: The National Health and Safety Council does not recommend the use of salt tablets, which should only be taken on the direct advice of a physician. Usually sufficient salt is absorbed from food eaten to provide replacement of all salt lost through perspiration. However, in extreme cases, extra salt may be added to food, during cooking or eating. You will find that you add more salt to your food as your body demands it.

For further information on heat stress contact the Occupational and Radiation Health Section on (09) 222 3377 or the Mining Section on (09) 222 3438.



Geoff Stocker, Project Supervisor and Clive Brook, Operations Manager - Boral Contracting ready for a pit inspection

COUNTDOWN TO MINESAFE INTERNATIONAL

MARCH 21-26, 1993

WHO'S ON THE PODIUM -
W **Hugh Morgan**, Western Mining Corporation will give the Keynote address on management commitment to health and safety and its practical implementation.

Professor Hank Cole heads a specialist behavioural research group at the University of Kentucky, and will explain the development of training programs specifically designed for the mining industry.

Ken Finlay from Exxon will explain how

OHS standards are applied in an international environment.

John Longden, British Coal has something to say about a new approach to mine safety which has been developed by British Coal, Dupont and others.

And that's just a look at some of the program for the first day!

Contact the Minesafe Secretariat at the Chamber of Mines and Energy for more information about this important week for the mining industry - Telephone (09) 325 2955.

PILBARA CONFERENCE

ALCOHOL AND OTHER DRUGS IN THE WORKPLACE

The Health Department recently hosted the first Alcohol and Other Drugs Conference in the Pilbara specifically for minesites.

The two day seminar was addressed by a representative group of speakers on topics that included industry experience with Alcohol and Drug testing.

Delegates looking for "quick fix" solutions to the problem of substance abuse were disappointed. The Conference reinforced the need for education programs on a complex and sensitive issue that should be tailored to suit the needs of individual sites, provided that a

problem existed. Anecdotal evidence, delegates agreed, supports the contention that there is cause for concern in this industry, and there was spirited and constructive debate on the value of drug testing.

Employee Assistance programs are an integral part of successful policy on this issue - a factor demonstrated by speakers from SECWA, Woodside and BHP.

If you would like more information about either Alcohol and Other Drugs or policy information please call:


Information:

- Steve Allsop (Alcohol & Drug Authority) (09) 370 0333
- Suzanne Keenan (Health Promotion - Health Dept.) (09) 222 2098

Policy:


- Amanda Keynes (Trades & Labor Council) (09) 328 7877
- Catherine Stedman (Dept. of Minerals & Energy) (09) 222 3538

DRINKING, DRUGS AND MINING



DON'T MIX

MINING INDUSTRY COMMITTEE ON SUBSTANCE ABUSE
Mine Health and Safety Academy, P.O. Box 1166, Beckley, WV 25802



- Gary Arcus (Chamber of Mines and Energy) (09) 325 2955

Alcohol & Other Drugs Helpline:

- (09) 421 1900 (24 hours)
008 (198024) Toll Free Country areas



Suzanne Keenan (Health Department) and Vivian Mack (Telfer) network at the conference



Inspectors Martin Knee and Simon Ridge set a good example

WHAT'S ON

DIEBACK

WHAT IS THE FUTURE?

A seminar presented by the Northern Sandplains Dieback Working Party:

Time: 8.00 a.m. - 5.00 p.m.

Date: Wednesday, 23 September

Venue: Department of Minerals & Energy, 100 Plain Street, East Perth

Enquiries to: Mike Freeman (09) 222 3502 or Chris Mills (09) 222 3541

SURFACE VENTILATION OFFICER'S COURSE

Venue: Department of Minerals & Energy, 100 Plain Street, East Perth.

Date: 15-16 October 1992

Cost: \$200.00

Interested parties contact Tania Narducci (09) 222 3095.

LOCOMOTIVE DRIVER'S CERTIFICATE OF COMPETENCY

Applications to sit the next examination at the Department of Minerals and Energy, Karratha should be sent to:

Denis Brown

Mining Engineering Division
Department of Minerals & Energy
100 Plain Street

EAST PERTH WA 6004

Telephone: (09) 222 3546

by 30 October, 1992

Examination Date: 27 November, 1992.

CONGRATULATIONS!

Bob Leggerini and Ron Strachan have been re-elected as Workman's Inspectors of Mines for the Kalgoorlie Inspectorate. We also congratulate and welcome John Farrow who has been elected to the new position of Workman's Inspector at Kalgoorlie bringing the number of employees' representatives in the inspectorate to three.

SIGNIFICANT INCIDENT REPORT UPDATE

32. Storage tank explosion.
33. Passenger lift - serious accident

NEW PUBLICATIONS

- Guidelines on open-pit mining through underground workings.
- Guidelines on underground mine ground control procedures.
- Torlach, J.M. "Mining Safety - The Lessons Learned but not Applied", in Proceedings of the Aus IMM Annual Conference, Broken Hill, 17-21 May 1992. PP 115-119.

WORTH NOTING

The July 1992 issue of Robe News (No.34) devoted page 5 to a very interesting article on safety awareness courses being run by the company. Unfortunately too long to reprint here, but readers may like to contact Russell Tipper, Senior Manager at Cape Lambert for more information.

STAFF CHANGES

Jo Duggan, Secretary Research & Technical Services has now become a permanent member of staff.

The MINESAFE Committee welcomes Jenny Oosterhof and Kim Williams on board. Anna De Filippi and Martin Ralph are now associate editors of MINESAFE, and Jan Hartley has taken on the task of resident proof reader.

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The Mining Engineering Division
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Editor: Catherine Stedman
Associate Editor: Martin Ralph
Editors: Anna De Filippi
Committee: Simon Wood
Yvonne Borowski
Jenny Oosterhof
Kim Williams

ACCIDENT ALERT

INCIDENT:

A Tamrock 500 rig was drilling probe holes in an open pit mine where old underground excavations were present. As the rig was tramming, the floor collapsed and the rig tipped over on its side.

RESULT:

Fortunately the driller managed to jump off the rig before it tipped over and escaped with no injuries.

PREVENTATIVE ACTION:

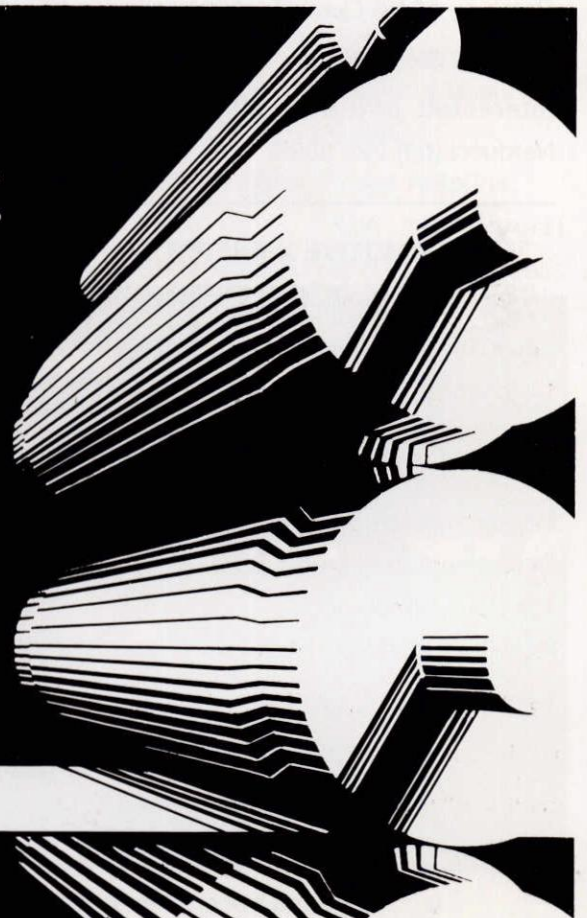
1. Design work for probe drilling should be carefully planned, cross checked and then executed.
2. Distance between 2 probe holes should be based on the particular size of machinery operating,
3. Expected intercepts in a probe hole should be given on the data sheet.
4. The drill rig path should be marked on the probe hole plans.
5. If personnel are attached to the drill rig by safety lanyards/ropes, emergency quick release type snap shackles should be used.



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