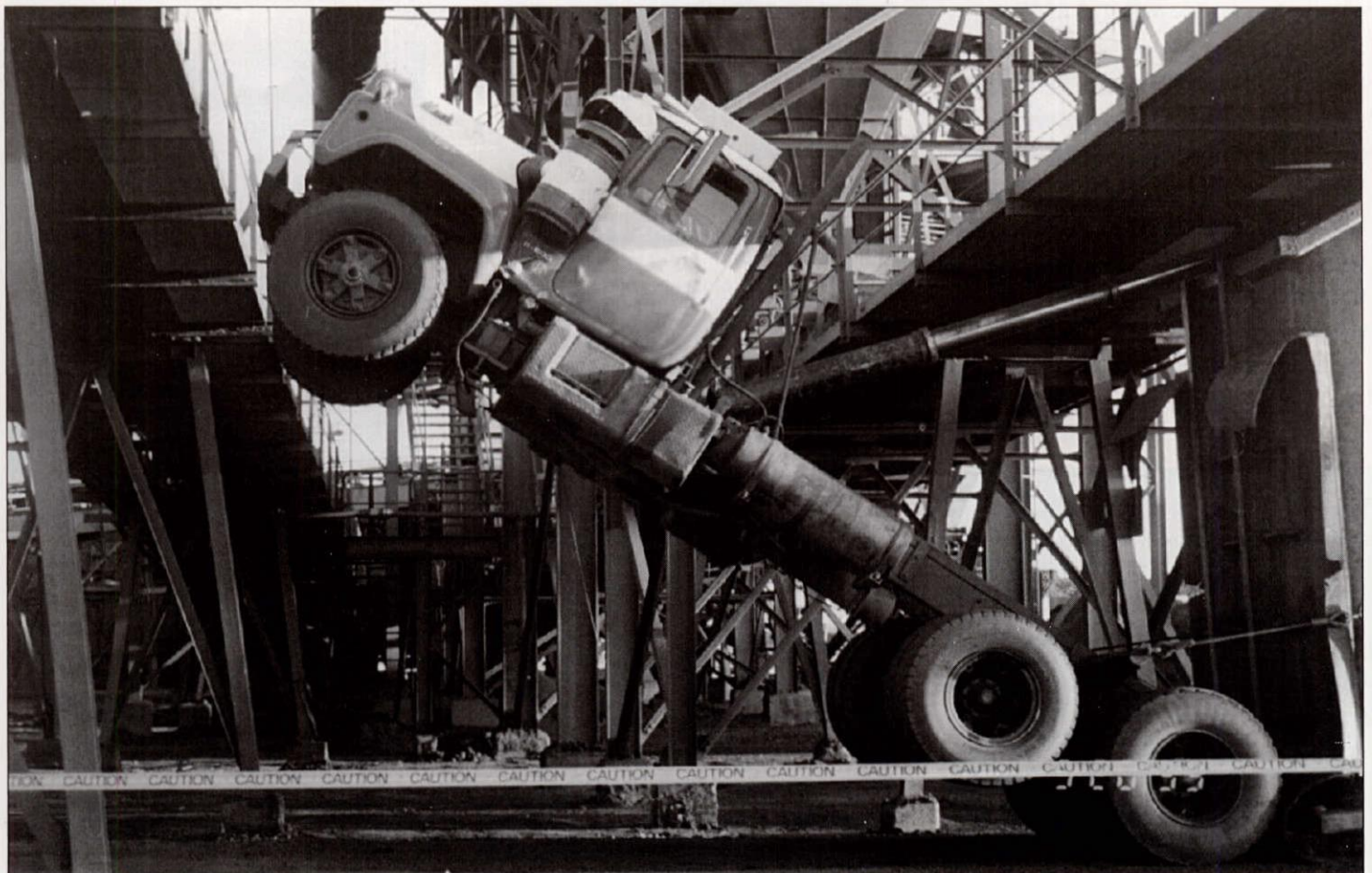




MINESAFE

ISSUED BY THE MINING ENGINEERING DIVISION OF THE DEPARTMENT OF MINERALS AND ENERGY

Go back! **WRONG WAY**



Accidents like this happen when operators drive vehicles without either training or are unfamiliar with the equipment. A trip from the stockpile is no time to learn about the controls. In this case, the operator believed the hoist switch had been released to the downward position when in fact it had been released from "up" to "hold" - with the tray still fully upright.

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MINESAFE is published four times a year by the Mining Operations Division of the Western Australian Department of Minerals and Energy. 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.

REMINDER

It has come to the editorial committee's attention that MINESAFE has not been reaching as many people as it should. Often copies are left lying on coffee tables or in reception areas where they are not likely to be seen by **ALL** mine workers. MINESAFE is for everyone, so help us get them to the people who need them.

APPOINTMENT

CONSULTANT OCCUPATIONAL HEALTH PHYSICIAN

The Minister for Mines Hon George Cash, JP, MLC has approved the appointment of Dr Brian Galton-Fenzi as Consultant Occupational Physician to the Department of Minerals and Energy.

Brian will provide advice to the Department, to the Mines Occupational Health and Safety Advisory Board, and to the industry and the workforce, on occupational health and industrial hygiene issues.

His first priority will be to lead and coordinate the development of an up-to-date mine workers' health surveillance system, to replace the old mine workers' health certificate system which lapses with the repeal of Division 2A of the Mines Regulation Act.

Brian was born and schooled in Kenya (East Africa) and took his medical degree at the University of London and St Bartholomaeus Hospital, Smithfield in 1974. He later completed a Masters Degree in Public Health at Sydney University (streaming in epidemiology and occupational health).

After initial clinical work in the Channel Islands he spent five years in Papua New Guinea, running a district hospital, teaching Health Extension programs, followed by appointment as Provincial Health Officer, Madang Province.

After completing his Masters Degree in Sydney, Brian spent 10 years with Mount Isa Mines Ltd, as Medical Superintendent and then Occupational Health and Safety Manager. The scope involved a workforce of 5,000 metalliferous mining and process

workers, and 700 coal workers.

Brian now holds the position of Manager Occupational Health and Safety with HBF of WA. He is State Chairman of the Australasian Faculty of Occupational Medicine, and has numerous other professional memberships.

His main interests remain with the mining industry, focussing on Occupational Health, and other Risk Management strategies in the workplace.

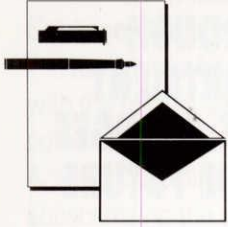
We extend a warm welcome to Dr Galton-Fenzi.



Dr Brian Galton-Fenzi.

LETTER TO THE EDITOR

THE JOINT COMMONWEALTH INDUSTRY FUNDED ADDITIONAL PLACES SCHEME.



I wish to formally advise the Department of Minerals and Energy of some of the specific educational

opportunities provided by the Curtin University of Technology in the field of Occupational Health and Safety. As you are aware increased knowledge and skills in Occupational Health and Safety can assist the mining industry in the prevention of costly work related injury and diseases and consequently enhance productivity.

In order to improve access to such educational opportunities the Commonwealth government has provided special funding arrangements for industry. A current scheme, entitled the Joint Commonwealth Industry Additional Places Scheme, is available for employers in industry to provide their staff with a University education in

their chosen field of study. The Commonwealth government provides 60% towards the cost of a University place and the employer the other 40%. The employer contribution assists in satisfying the obligations under the Training Guarantee Act.

I request the co-operation and support of the Department of Minerals and Energy to promote this worthwhile scheme to the Mining Industry within Western Australia.

Please do not hesitate to contact me if any queries arise. I await your response to this request.

Yours sincerely

BESS FOWLER

Course Co-ordinator 351 7294

*Interested persons should contact Bess Fowler for details on the course and funding scheme.
Ed.*

virtue of their appointment to a position of responsibility specified in the legislation, for example "Registered Manager".

A shift boss has an authority which is delegated via the registered manager and underground manager, to enable the registered manager to discharge his responsibility for the control and daily supervision of employees; (refer Mines Regulation Act, Regulation 3.22(1), and 3.22 in total).

Under the Act the responsibilities of the registered manager are spelt out. The responsibilities attached to him can not be delegated, but only the authority to discharge duties on his behalf.

Over and above the duties and responsibilities attached to those positions specifically designated in the legislation, the ultimate responsibility attaches to the employer, or more generally to the principal employer. The employer or principal employer appoints these persons to positions of authority and so is ultimately responsible for their actions. These responsibilities can not be delegated.

The shift boss has two aspects to his responsibilities under the Mines Regulation Act:

- the authority delegated to him under the legislation referred to above;
- the general duty of care as an employee (which falls on each and every employee regardless of any office held).

It is therefore critically important that supervisors are provided with the level of training in legislative and management duties which will provide them with a clear understanding and enable them to discharge their duties effectively.

Jim Torlach

GUEST EDITORIAL

Articles in previous issues of MINESAFE have outlined the role of the supervisor in relation to the duty of care.

A clear understanding of the duty of care principles is essential if employers and employees are to benefit from the recent legislation changes, and these issues are sufficiently important to warrant further treatment of them.

There is considerable anecdotal evidence of concern amongst many supervisors that the level of their legal responsibility has been greatly increased.

In reality there is no cause for undue concern on the part of any supervisor, except in the unlikely event of the commission of an act of wilful and culpable or deliberate negligence.

Any legal action which may arise in such an event against a supervisor would not differ greatly in nature or gravity from that which would have prevailed under the legislation prior to the changes effected by the recent Amendment Act.

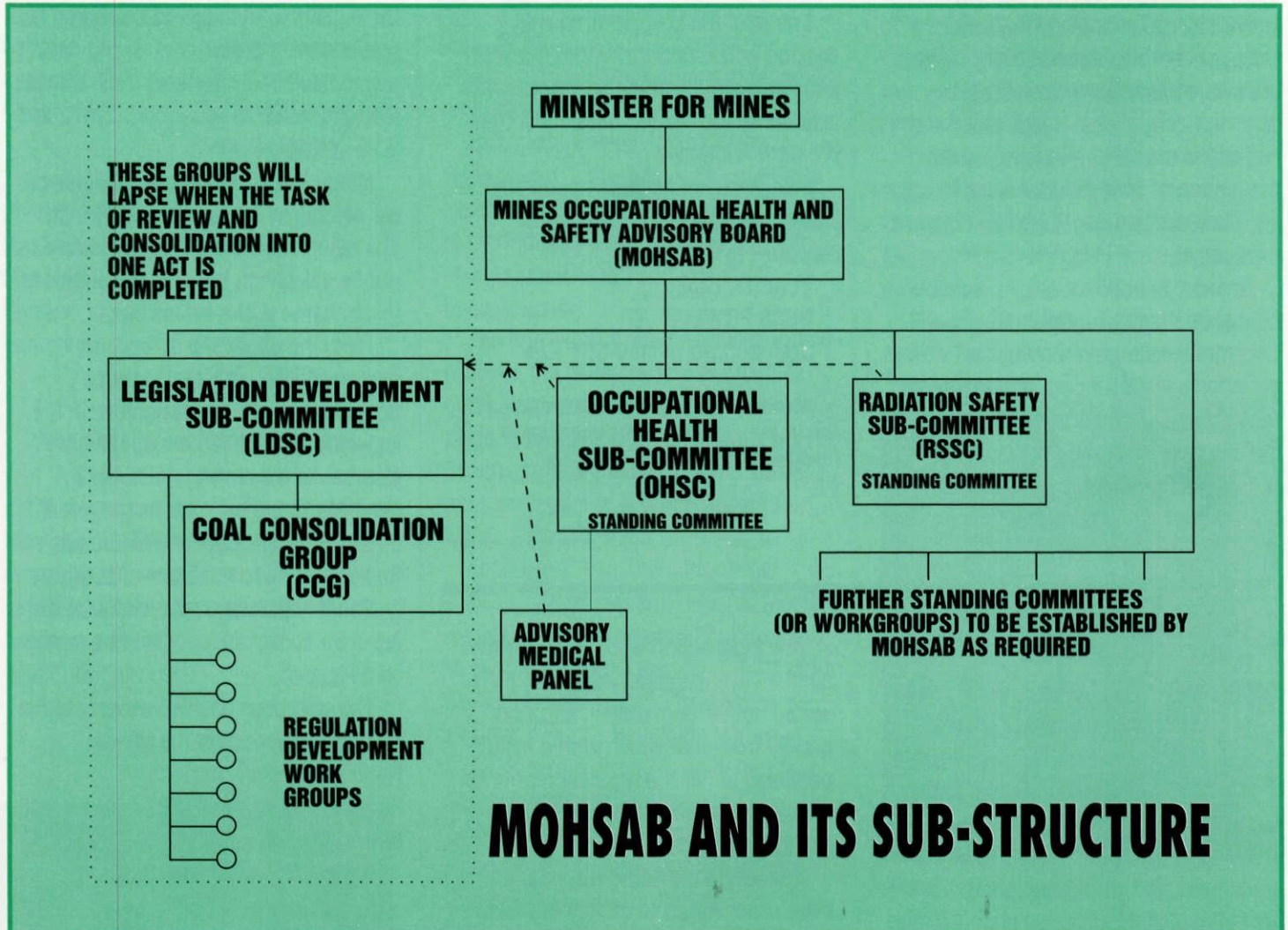
It is worth outlining the position in a little more detail to clarify the issue:

The Act refers to employers and employees. However the term employer or principal employer refers to a body corporate rather than an individual, except in the very rare case that an individual person is the sole owner of the enterprise.

It must be remembered that almost all company officials from the Chief Executive Officer or General Manager down are themselves employees of the body corporate. Such persons may have further duties under the Act by

CHANGES TO MINE SAFETY LEGISLATION

MANY PEOPLE WORKING IN THE INDUSTRY MAY ALREADY BE AWARE THROUGH MEDIA ARTICLES OF PROPOSED CHANGES TO THE LEGISLATION. THE DEPARTMENT HAS CIRCULATED COPIES OF A NUGGET PAMPHLET WHICH OUTLINES WHAT CHANGES ARE TO BE MADE TO THE EXISTING MINES REGULATION ACT, AND ALSO THE FUTURE PROPOSALS.



If you require copies of the brochure, they are available from the Regional Inspectorate offices, and from the Perth office; (contact Simon Wood 222 3532).

The Bill Repealing Divisions 2A, 5 and 6 of the Mines Regulations Act is currently before parliament, and it is expected that the Amendment Act will be proclaimed in October.

In the meantime the Minister for

Mines (Hon. George Cash, JP, MLC) has moved to establish the interim Mines Occupational Health and Safety Advisory Board (MOHSAB), to advise him on health and safety issues in the industry. The function of the Board is not that of an executive decision maker, but to provide liaison and coordination of views across the industry and development of competent advice.

This board, which will be chaired by the Director General of the Department of Minerals and Energy, will have four representatives from the Chamber of Minerals and Energy, and four representing the workforce, comprising two nominated by the T.L.C. (one metalliferous and one coal) and two Workmen's Inspector of Mines, (from Kalgoorlie and Karratha). There will

also be the State Mining Engineer, and the Director of the Policy and Information Division from the Department of Occupational Health Safety and Welfare.

The Minister has charged the Board with the priority task of carrying out a complete review of the Mines Regulation Act and Coal Mines Regulation Act, and consolidating the two into one Act.

The new Act, which will be retitled, will retain the essential OHSW Act principles (duty of care and consultation provisions) which were brought into the Mines Regulation Act by the M.R. Amendment Act No. 85 of 1990, which was proclaimed on 1 January 1993.

The Board will establish a legislation development sub-committee to coordinate this task, and a coal consolidation group. It will be necessary to set up work groups to review and revise appropriate sections of the regulations.

In order to deal with other specialist functions such as Occupational Health and Radiation Safety, technical specialist sub-committees will be required. The MOHSAB diagram illustrates the Board and its sub-structure.

You will see from this that there will be, (drawn from a broad cross section of experience and expertise), a much wider group involved than the 10 persons on the Board itself, which will function as the peak liaison and advisory group, and coordinate the input from all of the sub-structure.

A second priority task is to develop an up to date mine workers' health surveillance program to replace the old mine workers' health certificate system, which is dispensed

with by the repeal of Division 2A.

This will be a task for the Occupational Health sub-committee, and a proposed medical advisory panel. The Minister has also approved the appointment of a consultant Occupational Health Physician to advise the Department, the Board and the Industry on occupational health and hygiene issues.

Dr Galton - Fenzi is introduced to you in this issue of 'MINESAFE'.

The Minister has advised the chairman and Board members that he


believes that we have an opportunity to produce world class legislation, and to build on the excellent safety performance of the industry and bring it to the level of the world's best in performance.

The Board is scheduled to hold its inaugural meeting early in September and the sub-committees are expected to be operational soon after that meeting.

We will keep you advised through MINESAFE of future developments.

CHANGES TO MINE SAFETY LEGISLATION



 DEPARTMENT OF MINERALS AND ENERGY
WESTERN AUSTRALIA

SUBSTANCE ABUSE PROGRAM SURVEY REPORT.

In April this year all mines on the Axtat system were asked to take part in a survey of Substance Abuse Programs in the WA Mining Industry.

The survey was carried out because of the high level of interest in the mining community about the problems and implications of drug usage by people employed in the mining industry.

The survey, while it shows that the industry has some way to go in implementing adequate identification and control strategies/ programs, provides a base for co-ordinated action developed through considered and informed opinion.

Because a relatively small number of mines have formal programs, the report on the survey does not attempt to establish an industry norm, but rather presents the data so that industry sectors have factual information on which to build.

EARTHING ANFO LOADERS

Users of pneumatically operated ANFO Loaders should be well aware of the extreme danger which may arise from static electricity generated during use. Without effective controls, electrostatic charge may accumulate on the delivery hose, and can rapidly exceed energy levels capable of initiating explosive devices prematurely.

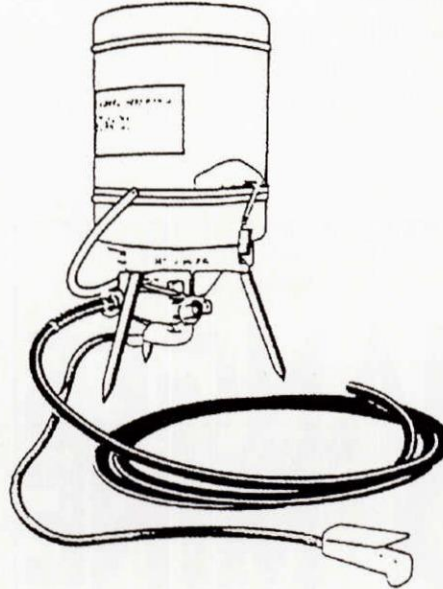
Detailed in a recently distributed Safety Bulletin (No.7) and MRA Regulation 7.39, are essential safety requirements for safeguarding against this hazard.

Acceptable practice is to prevent charge from accumulating by providing an efficient discharge path to ground through the use of semi-conductive hosing and effective earthing of the loader.

Semi-conductivity of the hosing is necessary for two purposes:

(a) to provide an adequate discharge path to ground for static charge generated during operation of the loader; and

(b) to present a sufficiently high resistance to other extraneous ground currents which may be present and transmitted to the blast hole via the hose.



A typical ANFO Loader.

Effective earthing of the loader is to be achieved by connecting a flexible electrical cable between metal parts of the loader in contact with the hose and an electrode in fixed contact with the ground.

Contact with the ground may be achieved by driving a suitable metal spike (electrode) into a purposely drilled hole or directly into the roadway floor where possible. Alternatively, roof bolts may also be used as an electrode, providing they afford the required resistance.

The cable and connections need to be robust and reliable.

Earthing of the loader to rails or other services such as air, water or electricity mains is strictly prohibited, due to stray current risk.

This practice applies to all blasting initiation, including non-electric systems.

Consult the Safety Bulletin No. 7 and Regulation 7.39, or the Inspectorate for further information.

CONTRACTOR'S EMPLOYEES LEAD THE WAY

The Contract Sector of the Mining Industry has had its share of critics over the years, particularly when it comes to accidents. Now it's time to acknowledge the commitment to safety put in by contractors and their employees.

There is never any place for time out in safety promotion and practice, and MINESAFE is happy to let the figures speak for themselves and say "WELL DONE!".

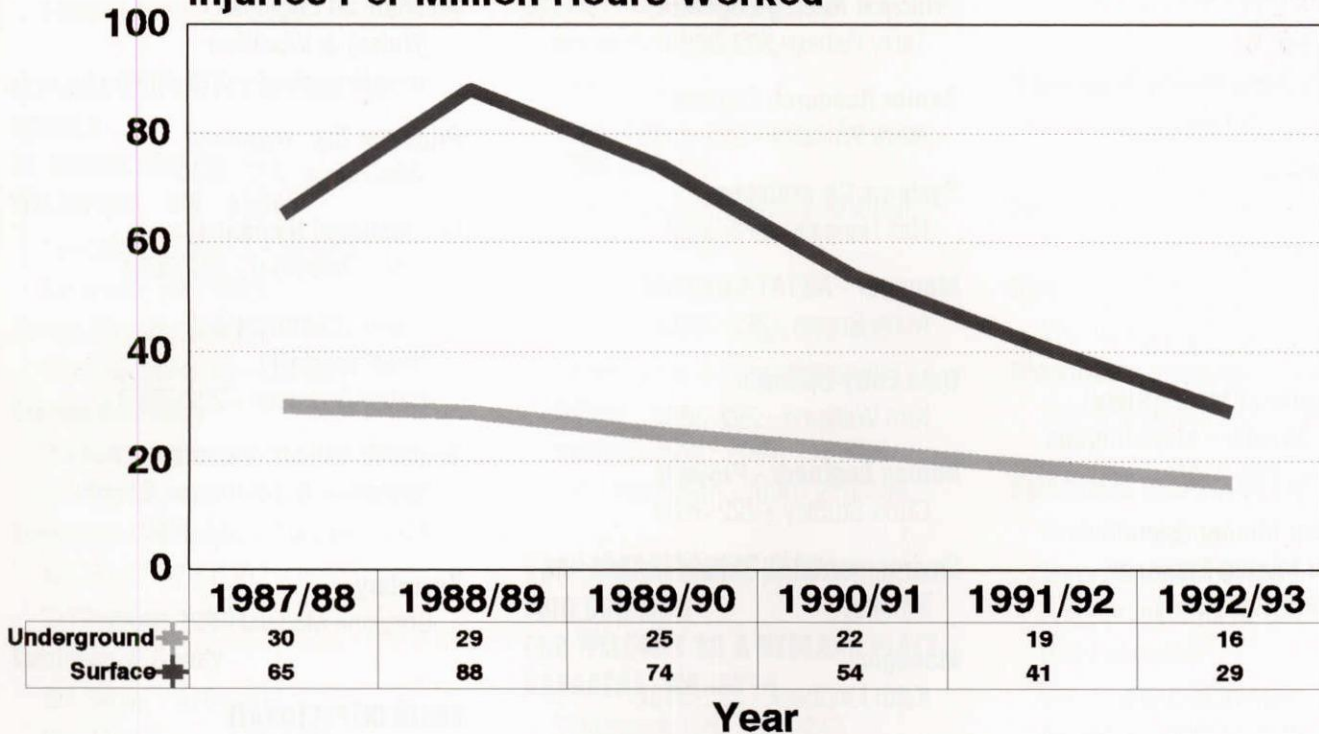
	No of Employers		No. LTI's		Incidence LTI/1000		Frequency	
	Industry Average	Contractor	Industry Total	Contractor	Industry	Contractor	Industry Average	Contractor
All Employees for 12 months to June	32983	9860	1337	332	35	34	17	15
All Surface Employees for 12 months to June	29908	8509	1085	268	33	31	16	13
All U/ground Employees for 12 months to June	3075	1351	251	64	52	47	29	27

ALL METALLIFEROUS MINES

WESTERN AUSTRALIAN METALLIFEROUS MINES

INJURY FREQUENCY

Injuries Per Million Hours Worked



CORRECTION

WORK PRACTICES SERIES PAMPHLET NO. 7 - CONFINED SPACES.

It has been drawn to our attention by several persons (including Health and Safety Representatives and committees), that in the **CONFINED SPACES** Pamphlet, "Nugget" is shown doing the wrong thing.

The cartoon in question, under the caption **GOOD WORK PRACTICE**, shows Nugget leaning over a manhole and lowering an instrument down to test the atmosphere.

It was pointed out that HCN gas, which is lethal, is a common hazard in confined spaces in gold treatment plants. The pose in which "Nugget" is shown indicates he could be at risk of inhaling HCN, as it is lighter than air.

The point is well taken, and it is good to see that close attention is being paid to the publications by people with a commitment to safety.

There is some licence afforded to our staff artist in devising illustrations to break up the text and make the smaller publications more interesting to read, and what is shown as cartoons can not always be taken literally. (For example one would not lower an expensive instrument by a piece of cord knotted around it!)

The important thing to remember is the fact that the written text takes precedence. The short sentences following **GOOD WORK PRACTICE** summarise what is to be done.

We will in future scrutinise "Nugget's" actions to ensure that he does not appear to be condoning sub-standard practice.

Keep up the close attention and ensure that it carries over to the workplace.

Editor.

ACTING STATE MINING ENGINEER

Mr Geoff Dodge (Deputy State Mining Engineer since 1984) will assume the duties of State Mining Engineer until the end of 1993. During this period Mr Jim Torlach will be seconded to the role of Executive Mining Engineer to concentrate on several tasks including the establishment of MOHSAB and its sub-structure, and the revision and consolidation of the legislation.

All Mining Operations Division matters during this period will be dealt with by Mr Dodge and queries should be directed to him.

Other staff movements consequential to these arrangements are listed under Staff Changes

MINING OPERATIONS DIVISION

EXECUTIVE

Director State Mining Engineer

Jim Torlach - 222-3280

Deputy Director

Deputy State Mining Engineer

Geoff Dodge - 222-3281

Executive Officer

Editor - Minesafe

Catherine Stedman - 222-3538

Secretary

Daphne Lobo - 222-3310

Senior Inspector of Mines(State)

Assistant Director - Metalliferous

Dave Collie - 222-3282

Assist. Director Mining Operations

State Coal Mining Engineer

Bob Hopkins - 222-3371

Secretary

Felice Kleinman - 222-3539

District Mining Engineer

Rodger Hampson - 222-3099

Special Inspector of Mines(Mach)

Fred Strauss - 222-3529

ADMINISTRATION

Manager

John Suda - 222-3372

Administrative Assistant

James Lawrence - 222-3095

Secretary, Board of Examiners

Melanie Calder - 222-3269

Finance Officer

Tania Narducci - 222-3094

Secretary

Carole Keogh - 222-3436

Diane Lavercombe - 222-3436

RESEARCH & TECHNICAL SERVICES

Assistant Director

Hugh Jones - 222-3374

Research Asst/Librarian

Simon Wood - 222-3436

Secretary

Jo Duggan - 222-3438

Mining Section

Principal Mining Engineer

Terry Fisher - 222-3264

Senior Research Engineer

Mark Whiteley - 222-3528

Systems Co-ordinator

Neil Hansen - 222-3098

Manager - AXTAT/CONTAM

Mark Brown - 222-3093

Data Entry Operator

Kim Williams - 222-3682

Mining Engineer - Projects

Chris Stublely - 222-3531

Environmental & Rehabilitation Section

Manager

Keith Lindbeck - 222-3437

District Mining Engineer (Rehabilitation)

Alan Bradley - 222-3375

Senior Environmental Officer

Chris Mills - 222-3541

Environmental Officer

Kim Anderson - 222-3690

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Principal Technical Engineer

John Jance - 222-3262

Electrical Inspector of Mines (Special Inspector of Mines)

Denis Brown - 222-3546

Structural Engineer

Mark Butson - 222-3437

Engineering Associate

Pieter Bakker - 222-3249

Secretary

Angela Mclver - 222-3092

Occupational Health Section

Principal Scientific Officer

Greg Hewson - 222-3129

Radiation Research Officer

Ian Marshman - 222-3651

Mechanical Engineer (Noise) & Vibration

Jerry Wilczewski - 222-3128

Principal Occ. Hygienist

Mike Rowe - 222-3050

Occupational Hygienist

Jenny Oosterhof - 222-3091

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Trevor Robinson - 222-3543

Scientific Officer, Secretary

Radiation & Ventilation Boards

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Secretary

Christine Medwid - 222-3373

PERTH INSPECTORATE

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Martin Knee - 222-3290

Secretary

Gwen Swarbrick - 222-3132

District Mining Engineer

Doug Austin - 222-3131

Jim Griffin - 222-3260

Lal Mahajan - 222-3138

Special Inspector of Mines

Maurice Knight (Mach) - 222-3135

Pat Haynes (Mach) - 222-3143

Les Berryman(Ventilation)-222-3238

Workmen's Inspector of Mines

Carmen Vetrone - 222-3139

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Robert Dye - 222-3097

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Bob Lawrence/

Bob Lucas (SECWA)

Geraldton (099) 210-333

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Bob Anderson (SECWA)

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Noel Boyce (SECWA)

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Denis Brown (DOMEWA)

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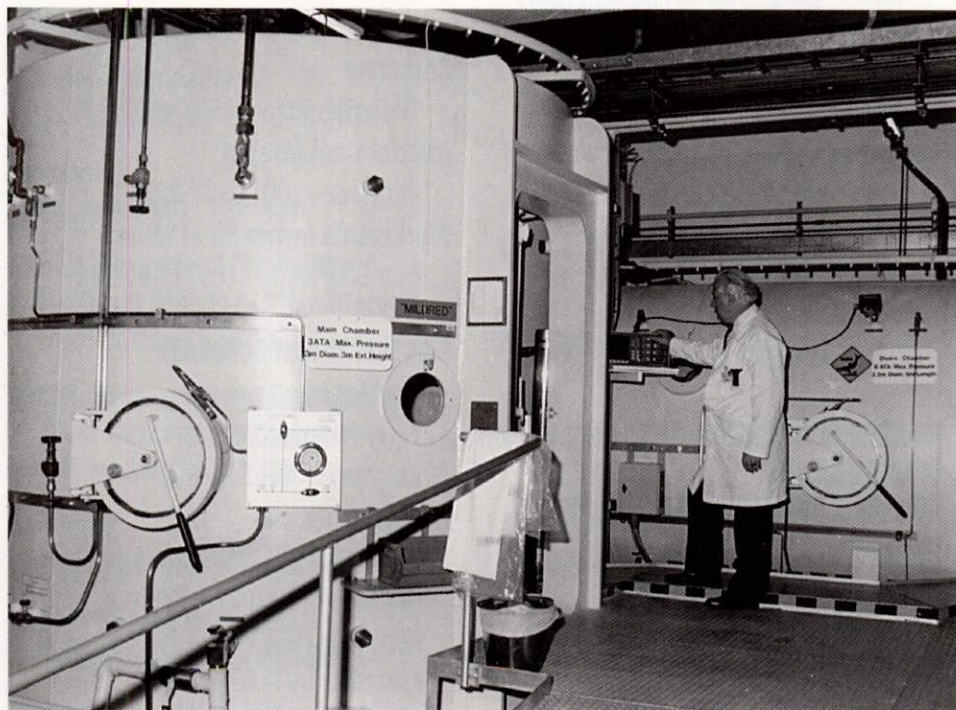
Doug Murphy (Westrail)

(09) 326-2425

CARBON MONOXIDE - THE MOST COMMON INDUSTRIAL POISON IN AUSTRALIA

Recent cases of carbon monoxide (CO) poisonings in both the mining industry and domestic situations has highlighted the need to increase awareness concerning the serious nature of the possible health effects.

CO is the most common industrial poison in Australia. It is a colourless, tasteless odourless gas and is produced when organic material is burned in a limited supply of air or oxygen.



Dr Harry F. Oxer, Director Hyperbaric Medicine Unit at Fremantle Hospital, with the Hyperbaric Chamber in the foreground.

Common industrial sources of CO include:

- petrol, diesel and LPG fuelled vehicles operating where there is insufficient ventilation;
- underground fires; and
- kiln and furnace emissions.

The levels of CO in underground metal-mines are generally low in routine operations. In surface operations elevated CO levels have been recorded in the vicinity of kilns (i.e. due to faulty seals) and inside vessels and tanks associated with kilns and furnaces.

HEALTH EFFECTS

CO interferes with oxygen delivery to body tissues, by combining with haemoglobin (the blood's oxygen transporter) to form carboxyhaemoglobin (COHb). When a person is exposed to high enough levels of CO, significant amounts of COHb are rapidly formed and the oxygen transportation system is affected. The brain and the heart are the organs most vulnerable to the effects of CO.

A little known effect of CO poisoning is the possibility of permanent brain damage. After rescue and treatment, most poisoning victims will recover. However, it has been found that about a

third of people who survive fairly severe poisoning (e.g. had lost consciousness at some stage) can develop brain damage if the proper medical treatment is not provided. Symptoms include headache and dizziness, vision problems, loss of memory, irritability, restlessness, depression or anxiety. Such effects can occur days or even weeks after the initial recovery.

Exposure to low levels of CO may also affect workers with heart problems, such as coronary artery disease; (this disease is related to an inadequate supply of blood to the heart). For workers with heart disease, whether it has been diagnosed or not, their conditions may be aggravated at fairly low levels of exposure.

The currently recommended exposure standard for CO is an average of 50 ppm over a workshift or a maximum of 400 ppm for a short period. Some health authorities caution that this standard may not be sufficient to protect workers with heart disease. Smokers have elevated levels of COHb in their blood and may also not be adequately protected by the present exposure standard.

A proposed level of 35 ppm (average exposure) is presently being considered by Worksafe Australia; this will provide protection for the significant proportion of the working population (especially those in the 45 years and above age group) with undiagnosed heart disease. The new exposure standard is expected to be adopted by Worksafe next year, and could therefore also be applied to mines in Western Australia.

First Aid and Medical Treatment

In cases of suspected CO poisoning, proper precautions to ensure the safety of the rescuers (e.g. the wearing of

appropriate protective equipment such as Self Contained Breathing Apparatus in enclosed spaces, etc) is the prime consideration. The source of the contamination should be removed or the victim moved to fresh air. Initial priorities are then the control of the airway and support of respiration and circulation. If a worker has been exposed to CO and complains of headaches, confusion, chest pain or a feeling of general discomfort and illness, CO poisoning must be assumed. Until professional medical care is available 100% oxygen (via oxy viva) should be administered by a suitably qualified person, preferably on a physician's advice.

Any suspected cases of CO poisoning should be referred as soon as possible to a hospital, Royal Flying Doctor Service or local Doctor. Proper medical assessment is required to determine the necessity for further medical treatment.

For people exposed to high levels of CO, it has been found the associated symptoms are greatly reduced where hyperbaric oxygen therapy is used (this is the treatment provided for divers suffering from the "bends"). Only 10% of victims are expected to experience this brain damage after hyperbaric oxygen therapy, as compared with 33% for those who recovered in fresh air and 12% for those who receive 100% oxygen treatment.

Fremantle Hospital is the only facility in Western Australia where hyperbaric oxygen therapy can be provided. Where it has been found to be necessary, treatment should be provided within the first one of two days of poisoning, and usually consists of a minimum of 90 minutes treatment on at least two occasions separated by 24 hours.

For further information, please contact the Research and Technical Services Branch of the Mining Operations Division on (09) 222 3091.

SAFETY MAKES SENSE

SO WATCH Yourself mate



PREVENTING ACCIDENTS IN THE WORKSHOP

CHECKLIST

- | | Yes | No |
|---|--------------------------|--------------------------|
| ■ Do you know the safety procedures for your workplace | <input type="checkbox"/> | <input type="checkbox"/> |
| ■ Is there sufficient lighting? | <input type="checkbox"/> | <input type="checkbox"/> |
| ■ Is your work area properly ventilated? | <input type="checkbox"/> | <input type="checkbox"/> |
| ■ Is your Personal Protective Equipment in good Condition? | <input type="checkbox"/> | <input type="checkbox"/> |
| ■ Are there Industrial Safety Signs prominently displayed, and are they clear and readable? | <input type="checkbox"/> | <input type="checkbox"/> |
| ■ Is unused equipment stored properly? | <input type="checkbox"/> | <input type="checkbox"/> |
| ■ Are electrical outlets protected? | <input type="checkbox"/> | <input type="checkbox"/> |
| ■ Is your work area tidy? | <input type="checkbox"/> | <input type="checkbox"/> |
| ■ Are floor area walkways clearly marked? | <input type="checkbox"/> | <input type="checkbox"/> |
| ■ Are open space areas covered or guarded? | <input type="checkbox"/> | <input type="checkbox"/> |
| ■ Are fire extinguishers well marked and accessible? | <input type="checkbox"/> | <input type="checkbox"/> |
| ■ Are chemicals properly stored and labelled? | <input type="checkbox"/> | <input type="checkbox"/> |
| ■ Is your equipment, i.e. grinders and portable tools guarded and well maintained? | <input type="checkbox"/> | <input type="checkbox"/> |
| ■ Are safety showers and eyewashes easily accessible, operational and temperature controlled? | <input type="checkbox"/> | <input type="checkbox"/> |
| ■ Is your clothing likely to snag or catch? | <input type="checkbox"/> | <input type="checkbox"/> |

WHERE THERE IS DOUBT - FIND OUT

MOBILE EQUIPMENT AND POWER-LINES

A series of recent "near-miss" incidents involving mobile equipment coming into contact with power-lines clearly demonstrates the need for industry to re-assess current installations and mobile equipment practice.

Vehicle tyres exploded in two incidents involving a tip-truck and a mobile crane. Shrapnel from tyres and wheel rims missed nearby personnel by only a few metres.

Drivers in other incidents narrowly missed being electrocuted in the process of alighting from equipment still in contact with power-lines. It was fortunate for the drivers that the power supply had already "tripped".

Whilst few need reminding of the potentially fatal consequences that may result, it is apparent that general awareness of the problem and the need to effect corrective action warrants more emphasis.

High risk areas include quarries, haul-roads, road-crossings, stockpiles, dumps, workshops and storage facilities. Most incidents involve mobile cranes and mining equipment such as haul-trucks, drilling rigs, lighting towers and excavators.

Resolving the problem is not a complex issue. Adopting just one of the following basic practices will help prevent accidents:

- **DO NOT INSTALL OVERHEAD LINES IN MOBILE EQUIPMENT OPERATING AREAS.**
- **DO NOT OPERATE MOBILE EQUIPMENT IN THE VICINITY OF POWER-LINES.**
- **PROVIDE AN EFFECTIVE BARRIER THAT WILL PREVENT EQUIPMENT FROM CONTACTING POWER-LINES.**



Tyre Damage caused by explosion

These factors are common to every incident. Warning signs alone do not constitute an effective barrier.

Drivers are again advised to stay in the vehicle until the power supply has been positively isolated.

Procedures for safeguarding against injury from tyre explosions have been made available and need to be thoroughly understood by supervisors and maintenance personnel.

In an endeavour to prevent the very real possibility of a fatality, mine managers are enjoined to review current practices at their operations. Every assistance will be provided by the Inspectorate.



BAD WORK PRACTICE



Inadequate barriers on crusher feeder

GOOD WORK PRACTICE



Local exhaust ventilation system at a welding station. Flexible ducting allows limited movement

WHAT'S ON

International Conference on Crustal Evolution, Metallogeny and Exploration of the Eastern Goldfields, 15th to 18th September, 1993, WMC Conference Centre, W.A. School of Mines, Kalgoorlie, Western Australia.

FURTHER INFORMATION

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**GREEN & GOLD, GOLDFIELDS
INTERNATIONAL CONFERENCE ON ARID
LANDCARE, 29 OCTOBER - 1 NOVEMBER
1993, GOLDFIELD ARTS CENTRE,
KALGOORLIE, WESTERN AUSTRALIA.**

FURTHER INFORMATION

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STAFF CHANGES

Frank Saville has been elected the new Workmen's Inspector for the Karratha Inspectorate.

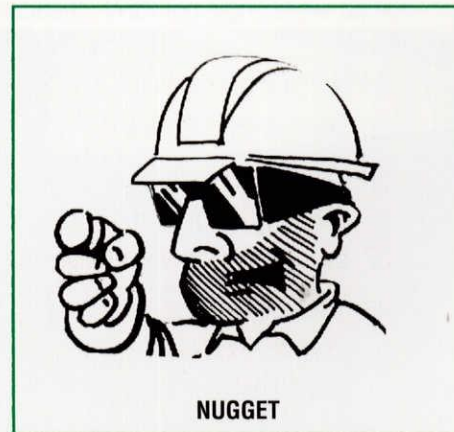
Bob Sherwood has been elected the new Workmen's Inspector for the Collie Inspectorate.

Neil Hansen has been appointed Systems Coordinator for the Research and Technical Services Branch.

Catherine Stedman has been appointed Executive Officer for the Executive Section.

DOUG BLIGHT

has transferred to another government Department much to the dismay of NUGGET, who has, for three years, relied on Doug's special talents as our artist to present his point of view to the mining workforce. MINESAFE will miss the talents of "Dug" and we all wish him well for the future.



MINE VENTILATION OFFICER'S COURSE

SURFACE MINING

Conducted by: Mining Operations Division, Department of Minerals and Energy.

Held: Every 3 Months
Venue: Department of Minerals and Energy,
100 Plain St, East Perth.

Cost: \$200 per person

The aim of the course is to impart sufficient knowledge so that participants may confidently fulfil the legislative requirements of a Ventilation Officer, as outlined in the Mines Regulation Act Regulations. Accordingly, the course is targeted at prospective or current mine ventilation officers.

On completion of the course participants will be able to:-

- Perform the duties of a Ventilation Officer in surface mining operations.
- Recognise hazards on mine sites (eg: chemicals and dust).
- Evaluate hazards through air sampling, instrumentation, analytical methods and occupational exposure limits.
- Control atmospheric contaminants.
- Determine if respiratory protective devices are necessary, and advise on the use and maintenance of respirators.

Further details and nomination forms are available by contacting Mr James Lawrence on (09) 222 3095, or by fax on (09) 325 2280.

Underground Mine Ventilation Officer's Courses are also conducted on demand and persons interested in nominating should contact Mr Lawrence on the number above.

MINESAFE PUBLICATIONS ISSUED SINCE JUNE 1992

Asbestos Management in mining - August 1993.

Conceptual Plan of the Golden Mile, 1992.

Contam Guidelines: for the evaluation of atmospheric contaminants in the mining industry - 1992.

Emergency Preparedness guidelines - September 1992.

Fatal accidents in the Western Australian Mining Industry (1980-1991): a retrospective study.

Fatal and lost time injuries in Western Australian Mines - 1992.

Fisher, T.N. "**Occupational health and safety in the WA Drilling Industry**", September 1992.

Griffin R.J. "**A Regulator's expectation of safety management**", November 1992.

Guideline: Management of asbestos in mining - November 1992.

Guidelines on Underground Ground Control Procedures.

Guidelines on Open-pit Mining through underground workings.

Hewson, G. "**Tripartism - the way forward**". Paper presented at the Australian Radiation Protection Society 17th Annual Conference, Darwin, 21-25 September 1992.

Hewson, G., Kuasnick, J. and Johnston, A. "**Regulation of Radiation Protection in Mining in Australia**". Paper presented at the international workshop on the health effects of inhaled radionuclides: Implications for radiation protection in mining, Four Seasons Hotel, Jabiru, N.T., 25 September 1992.

Hewson, G. and Ralph, M. "**Investigation into Occupation Radiation exposures in Underground Mines in Western Australia**". Paper presented at the Australian Radiation

Protection Society 17th Annual Conference, Darwin, 21-25 September 1992.

Interim Guideline: Management of Exposure to Arsenic in Mines - March 1993.

Interim Guideline: Management of Exposure to Inorganic Mercury in Gold Plants - November 1993

Interim Guidelines for Noise Control.

Rehab Blab Nos. 2-3

Safety Bulletin No.6 - Formatting Hydrogen Gas from Silicon Metal.

Significant Incident Reports:

27. Shrink Stope.
28. Mud Rush.
29. Stope Draw-Point (Mill Hole).
30. Elevating Platform Operation.
31. Hot Oil Boiler.
32. Storage Tank Explosion.
33. Passenger lift - serious accident.
34. Underground vehicle fire.
35. Safe Welding Practice.
36. Injuries sustained whilst working on drilling mast.
37. Lead acid battery explodes
38. Uncontrolled movement of mobile unit during maintenance
39. Uncontrolled movement of "Cherry Picker"

Torlach, J.M. "**Mining Safety - the Lessons Learned but not Applied**", in Proceedings of the AusIMM Annual Conference, Broken Hill, 17-21 May 1992 PP 115-119.

Torlach, J.M. "**The Future Workplace: Implications for Occupational Health and Safety**", 1992.

Work Practices **NUGGET** series:

1. Rockfalls
2. Barring Down
3. Conveyor Safety
4. Crane Safety
5. Dumping over edges
6. Compressed air safety
7. Confined Spaces
8. Laboratory practices
9. Overhead power lines
10. Tyre fires and explosions

POSTERS

- Conveyor safety
- Nugget poster and sticker
- Only a chump ignores a slump in the dump
- Rockfalls
- Pit traffic congestion
- Chemical safety
- Loose Clothing
- Operator Access (Machinery) - available September
- Seat Belts - available September



Lal Mahajan, District Inspector of Mines, helps to demonstrate the latest range in splinting technology, while other departmental staff eagerly await their turn.

ACCIDENT ALERT

INCIDENT

An elevating work platform was being unloaded from a "tilttray" flat top truck.

The machine was driven off the truck by the operator, who stood in the basket while doing so.

As the unit moved down the tray the basket was forced under the boom. The cage was squashed as it hit the ground.

CAUSE

The basket had not been raised high enough to clear the ground as it rolled off the tilttray.

RESULT

The basket collapsed with the operator trapped in it, and the operator received serious injuries.

PREVENTATIVE ACTION

1. Elevating work platforms should be unloaded from "tilttray" trucks using the truck winch in the following manner.
 - (a) Raise Boom to a height that will allow the basket to clear the clear ground while rolling off the tray.
 - (b) Disengage the elevating platform travel drive (to the free wheel mode), after it is secured to the winch.
 - (c) Tilt the truck tray and control the roll off speed of the elevating platform by using the truck winch, taking care that it does not slew.
2. Operators should not be in the basket of the elevating platform during this operation.
3. All personnel should remain clear until the unit is on level ground. Only trained and experienced personnel should carry out this operation.



Full view of jig position after the accident

STOP PRESS !

LEAD-ACID BATTERY HAZARDS

How many people know that "Lead-acid" batteries emit highly flammable hydrogen gas, and that electrical sparking resulting from:

- jiggling with the terminals;
- using jumper leads;
- connecting a charger; or
- simply replacing a battery

can readily cause batteries to explode?



Three recent accidents underline the fact that battery explosions are extremely violent and capable of inflicting serious injuries.

AVOID ACCIDENTS BY

- Properly ventilating the area around batteries, and by keeping the ignition source a safe distance away.
- Always wear safety goggles and a face shield when working closely with batteries.

Denis Brown
Electrical Inspector