



MINESAFE

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

HOW MUCH DUST IS TOO MUCH?



Recently one of our Inspectors had to ask the question
"How much dust is too much?"

(Story on Page 2)

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HOW MUCH DUST IS TOO MUCH?

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The front cover shows what must be considered as too much dust.

The duties of the surface ventilation officer need to be reinforced. The office is a very responsible one and the person in this position must be aware of his/her duties as laid out by Regulation 9.6 of the Mines Safety and Inspection Regulations 1995. A failure to carry out these duties diligently could be determined as a breach of Section 10 of the Mines Safety and Inspection Act 1994 - Duty of Care of Employees.

There is a requirement placed on the Principal Employer and Manager at a mine by

Regulation 9.12 to ensure that the level of atmospheric contaminants at a mine is controlled. A rigorous sampling system **MUST** be in place to ensure the level of atmospheric contaminants is maintained below the relevant exposure standards and as **LOW** as practicable. Complying with the bare minimum of the CONTAM quotas will usually not be sufficient to meet this requirement.

How much dust is too much? A difficult question to answer without sampling and reference to the exposure standards. For further information about the duties of the surface ventilation officer contact your local DME Office.



Systems must be in place to ensure levels of dust are maintained below acceptable standards.

EDITORIAL

What is the verdict on self regulation? For an industry with a reputation for conservatism, most people are adapting well, although there are areas where change calls for a radical re-think on priorities.

For years the industry relied on the lost time injury frequency rate (LTIFR) as the important performance indicator. The LTIFR only measured where the system failed, but for industry in a prescriptive legislative climate, it developed a reputation as a measure of efficient management.

Unfortunately, the importance placed on a low LTIFR, often resulted in creative statistical management becoming the name of the game, which was no help to the person injured in an accident.

The preventive nature of self regulation, means identifying and eliminating the potential for injury. For policy, procedure and work practice, a re-think of the way things are done is often an

immediate consequence of adapting to the change. Extensive, measurable procedures and work practices now supplement traditional "motherhood" policy statements, all of which carry a financial cost in terms of training, assessment, and documented standards. There are no overnight miracles in a responsible approach to cultural change, which is really what it is all about, and certainly no danger in a steady progression towards achievable goals. If there is a danger, it lies in introducing immediate change without recognising the need for a corresponding shift in value systems that have been operating on a corporate and personal level for many years.

Redefining the significance of management tools like the LTIFR is one of those changes, and one that the industry is accepting well.

The WA industry has lots to be proud of, and the ability to adapt to change deserves to be recognised and commended. The

relatively smooth transition says much about the progressive nature of all sectors of the industry, which belies the "conservative" tag when it really counts. The steady approach is the one that will have lasting results. Fifteen months is not long enough to measure the impact of the new regulatory system, but the industry climate in which the change is happening, means that the signs are good for a self regulation that works well.



Catherine Stedman

CATHERINE STEDMAN
EDITOR

VALE - ARTHUR WILSON

Arthur, who was State Mining Engineer from 5 April 1967 to 2 March 1979, died recently. He is remembered by all who knew him with affection and respect.

Dr Jim McNulty, who had been Mines Medical Officer at Kalgoorlie, paid a tribute to Arthur.

When Dr McNulty first went to Kalgoorlie there was a very high incidence of TB and Silicosis in the Western Australian Gold Mining Industry.

The Mines Regulation Act at that time was not very effective in respect of occupational health, and after his appointment as State Mining Engineer, Arthur, together with Jack Boyland and Jim McNulty, prepared new regulations which resulted in very significant improvements in occupational health in the mining industry.

Arthur carried out a major overhaul of the whole regulatory framework supporting the Mines Regulation Act. These regulations served the industry for the next 20 years.

Our heartfelt sympathy is extended to his family on their loss.

DUTY STATEMENT!

WHAT DUTY STATEMENT?

"A principal employer, manager, or other person authorised for that purpose who appoints a person to perform duties or assist that person to perform duties under this Act must make the appointment in writing and must provide that person with a written summary of responsibilities and duties." Section 44(1).

SECTION 44(1) is proving to be one of the sleepers in the new Act and regulations, and means putting pen to paper across a whole range of job categories in the industry.

The requirement is a good example of unstated intent. Many have taken the requirement to mean statutorily appointed people only and have not paid the requirement the attention it demands.

Statutorily appointed people are not the only ones with duties under this Act. Every employee on the minesite has a duty of care, and many also have duties that are covered by specific regulations.

The purpose of the requirement is to ensure that people know what they are supposed to be doing, and have the training and experience to do it. Section 44 has a far greater reach than a superficial reading indicates.

An added problem is the loose terminology in common use. A duty statement is not a job description. A job description does exactly what the words state - it describes a job. Section 44 is concerned with the duties attached to that job, and describes the performance behaviours of people rather than the parameters of the job. Coming to grips with the difference between the two is the first step in satisfying the requirements of Section 44.

A good reason for employees to have duty statements is to ensure that the requirements of the duty match the knowledge and skills of the person. That match lies at the heart of the unstated intent of Section 44, and is closely linked to

not only the general duty of care, but also the training and assessment requirements of Regulations 4.13 and 3.6.

Duty statements should contain active verbs that show action: words like analyse, assemble, build, calculate, coordinate, define, demonstrate, develop, prepare, establish etc so the ability to do

individual duties and tasks competently and to a standard can be measured.

Anecdotal evidence suggests that in the past, written duty statements were a bit thin on the ground. Section 44 requires a change. Chat with your local inspectorate to help clarify regulatory expectations on this very important issue.

NUGGET KNOWHOW



... THE RIGHT WORDS, GET THE RIGHT RESULTS

OCCUPATIONAL HEALTH FILE:

IT'S 3AM AND FREEZING COLD!

Hypothermia is a dangerous condition where abnormally low body temperature occurs. This is commonly caused from exposure to cold conditions (especially cold, water and wind) without adequate protection.

Signs and Symptoms include:

- ◆ coldness or shivering;
- ◆ slow, irregular pulse;
- ◆ numbness;
- ◆ slow, shallow breathing;
- ◆ problems with vision;
- ◆ decreasing levels of consciousness; and
- ◆ uncoordinated movement.

Hypothermia is a medical emergency which can be managed by ensuring adequate measures are in place.

- ◆ Avoid being outdoors at the coldest part of the day.

- ◆ Always wear adequate clothing appropriate to the environmental conditions and your level of activity. For example, woollen clothing, hat, gloves.
- ◆ Drink plenty of warm fluids or plain water. Avoid drinks containing alcohol or caffeine.
- ◆ Maintain a regular nutritious diet.

Casualties at incident scenes can be subject to the problem of hypothermia.

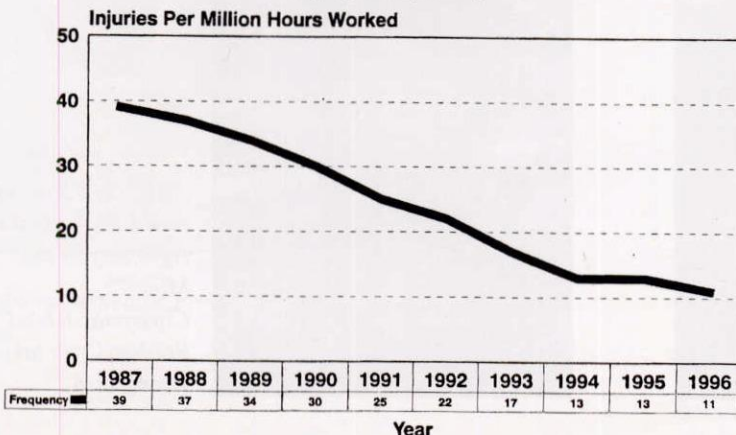
Mine rescue teams and first aiders should always be prepared.

FREQUENCY OF INJURIES IN WESTERN AUSTRALIAN MINES

Last year the WA mining industry recorded its lowest number of lost time injuries ever. There were a total of 985 injuries representing a 5 percent improvement (1,033 for 1995). This was despite a 10 percent increase in employment numbers. The reduction in injuries resulted in a **15 percent improvement** in the overall **industry frequency rate**, currently at 11 lost time injuries per million hours worked. It also marked the end of a performance plateau established in 1994.

The biggest improvements came from the iron ore and coal mining sectors which enjoyed 33 and 35 percent improvements, respectively.

WESTERN AUSTRALIAN MINES
Injury Frequency



CONTAM REVIEW

The Contam database is currently under review.

Comments are welcome from all safety and health personnel who would like to have some input into the review process.

For further information contact Tracy Long.

Tel: (09) 222 3129

Fax: (09) 222 3441

Email: t.long@dme.wa.gov.au

"IN SEVERAL PLACES THE (TRAIN) LINE HAS SUNK SLIGHTLY DUE DOUBTLESS TO BURROWING BY CRABS"

COLONEL FAITHFUL 1952 REPORT

The train line may be gone, but the employees of Christmas Island Phosphates still share their beautiful volcanic rock island with millions of land crabs. The people live on the coastal settlement, the crabs in the forest, (except for their annual migration to the sea to spawn).

The initial reaction of most people to the news that you are going on a site visit to Christmas Island Phosphates (CIP) is surprise. Most people remember the operation closing down, but few are aware that it re-opened again in 1990 as an employee owned company. How the Company came to be owned by its employees is a story as unique as the island itself, and cannot be done justice in a Minesafe article. There are books on the island's history available.

Much of the island, which is an Australian Territory is a national park. That says something about the ability of the environment and mining to co-exist. The mining leases are scattered around the island, and mining revolves around processing stockpiles as opposed to new deposits, but CIP is very much alive and well!

In January of this year, the operation came under the regulatory jurisdiction of the WA Inspectorate (Perth), and at the time of writing Machinery Inspector Fred Strauss and District Inspector Andrew Extract were visiting the mine.

For General Manager David Lee and Human Resources Manager Doris St Tan, the priority is helping the multi-lingual workforce come up to speed with the requirements of legislation. Unlike the rest of us, CIP employees haven't had the benefit of the long lead in time at a working level. However, for a workforce



who are administered from Canberra, vote in Northern Territory Federal Elections, and come under WA legislation, the challenges presented by peculiarities like the employees being shareholders, (and some, also the Principal Employer,) are just part of the way the island works and so meeting the challenges of legislation is something they will take in their stride.

The mining process is straight forward. Ore is trucked to the drying/processing plants and from there via a conveyor system to the loading dock at Flying Fish Cove.



Hazard audit first, then the swim, OK?



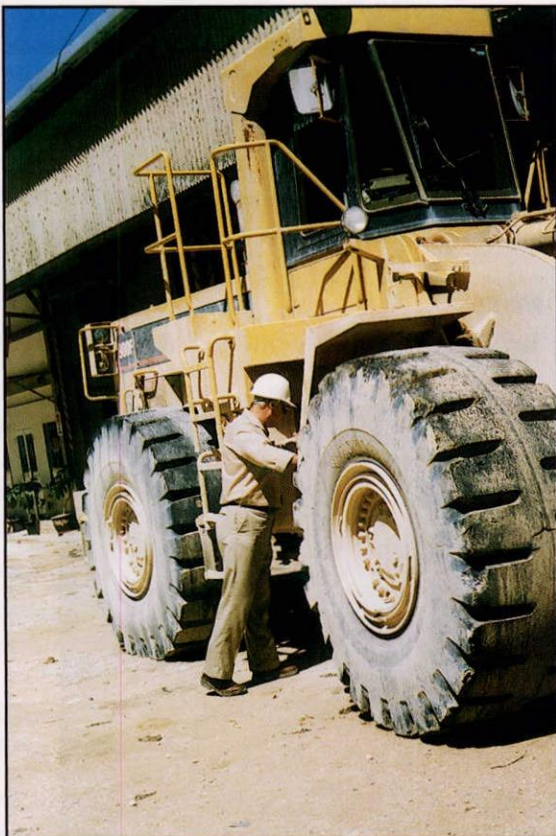
*"OK, so I have my own PPE — Is this the right way to the Mine?"
Christmas Island Robber Crab takes a wrong turn .*



▲
◀ If you think it's hard enough in English, try Chinese and Malay! — Legislative training on Christmas Island.



“What do you mean, this is your office!!” Chinese New Year and Lion Dancers visit the workshop.



Machinery Inspector Fred Strauss on Christmas Island.

While the island may be a paradise for sea divers and snorkellers, the reef, cliffs and weather are not as kind to ships attempting to berth. It was Monsoon season during my visit and the swells made it impossible for ships to berth. One had been attempting to come into the harbour for ten days on this occasion and was still waiting. The cargo ships that supply the island unload on to barges, and one Commonwealth public servant met in passing, was not looking forward to going home and telling his wife that her furniture and clothes which for a brief time were so near, were on their way back to Fremantle!

It was also Chinese New Year, and while training and workplace education are a priority, a little extra insurance doesn't go astray. The Lion Dancers turned up in force at the Drumsite Workshop and Company Offices to add their blessings for an auspicious year.

From a legislative viewpoint Christmas Island Phosphates is the newest member of the WA mining community. **MINESAFE** extends a big welcome to all their employees. More importantly the communication network that helps us all to make mines safe places to work has now gone offshore. The island is just a phone call away.

Tel: (091) 648932, Fax: (091) 648446.

There is a lot we can do to help, and by the same token, there is also much we can learn from the islanders.

SAFETY AND HEALTH R

Almost every issue of MINESAFE has some reference to the work of Safety Representatives. We thought it was about time we tracked down some of our industry representatives, and asked them what they thought about their role, and how it all works. We talked to representatives in all of the Regional Inspectorates, (well, we didn't - we asked the regional inspectors to do it for us!) and asked them 18 questions. Here's what they had to say.

QUESTION 1 - HOW LONG HAVE YOU BEEN A REPRESENTATIVE?

Responses ranged from 4 months to 4 years.

QUESTION 2 - WHAT MADE YOU DECIDE TO STAND FOR ELECTION?

Most said they had an interest in the job and that they felt there was a need for a rep.

QUESTION 3 - DO YOU SEE YOURSELF STANDING FOR RE-ELECTION?

A unanimous "yes" for this one. Although one rep did add that he "would like to see the job shared amongst the crew".

QUESTION 4 - IF YES, DO YOU WANT TO CONTINUE?

Some mixed feelings here - Responses included "because I believe in safety"; "I enjoy representing my workmates"; "it is often interesting and rewarding"; "because no one else will do the job" and "I feel we have come a long way but there is still a long way to go".

QUESTION 5 - IF NO, WHY NOT? N/A

QUESTION 6 - WHAT SORT OF TRAINING HAVE YOU HAD TO DO THE JOB?

Most had attended a Safety and Health course and some had also been to a course on Accident Investigation.

QUESTION 7 - HAVE YOU BEEN ON AN ACCREDITED TRAINING COURSE?

All but one rep had attended an accredited course.

QUESTION 8 - WHAT DID YOU THINK OF THE COURSE? WHAT DID YOU GET OUT OF IT?

Most found the course "excellent" and "very informative". All felt it provided an explanation of the safety legislation and contained useful communication techniques - as one rep said "these courses opened my eyes to the need for more safety consciousness by the whole workforce".

QUESTION 9 - WHAT, IF ANY, DIFFICULTIES ARE YOU EXPERIENCING BEING A REP? EG. INFORMATION, CO-OPERATION, TRAINING, ETC.

Generally, most agreed that the main difficulties faced were lack of support from their workmates and from management.



*Robert Eade, Mechanical Fitter
(KCGM — Mt Charlotte/Cassidy)*



*L to R: Robert Astel, Maintenance OPC2; Warren Henderson, Contractor with TCC; Dave Hall, Safety Officer; and Mark Brayshaw, Production OPC3
(Alcoa — Pinjarra Refinery)*

REPS HAVE THEIR SAY ...

QUESTION 10 - WHAT SORT OF ADDITIONAL TRAINING DO YOU THINK REPS NEED?

All felt that more training was important. Training needs identified included safety legislation; interpersonal communication and confrontation resolution; advanced first aid; and courses in accident investigation.

QUESTION 11 - THINKING ABOUT WHAT THE ACT SAYS ABOUT THE FUNCTION AND ROLE OF REPS, HOW EASY IS IT TO MAKE IT ALL HAPPEN IN THE WAY IT WAS INTENDED?

Some reps were "still working on it" while others had "no problem here".

QUESTION 12 - WHAT ARE THE REALLY POSITIVE THINGS ABOUT BEING A REP?

One response summed it up for all - "making the job safe for myself and other workmates. It is good to know that I have contributed to that".

QUESTION 13 - HOW DO YOU THINK EMPLOYEES SEE THE ROLE OF THE REP? DO THEY EXPECT TOO MUCH (TOO LITTLE) OF YOU?

Some felt they were "seen as a valuable individual", while others felt "that employees don't appear to appreciate the role of the rep".

QUESTION 14 - WHAT SORT OF PROJECTS HAVE YOU BEEN INVOLVED IN (THAT REALLY STAND OUT IN YOUR MIND)? EG. AN ACCIDENT INVESTIGATION, TASKFORCE, ETC.

Participating in the development of audit systems and safe work procedures was a common response.



*Examining a new access step installed on a drill rig
— Richard Hawkins, Fitter (Alcoa — Jarrahdale)*

QUESTION 15 - DO YOU THINK EVERYONE ACCEPTS AND APPRECIATES THE ROLE THAT REPS PLAY IN THE WORKFORCE?

Mostly negative feelings here - As one rep said "acceptance and appreciation of reps is a very individual thing".

QUESTION 16 - WHAT ADVICE HAVE YOU FOR IMPROVING THE ROLE/FUNCTION OF THE REP?

All felt that additional training and education was important for overall improvement.

QUESTION 17 - HOW EASY/DIFFICULT IS IT FOR YOU TO GET INFORMATION UP AND DOWN THE LINE?

Some found it difficult to access information, while others felt that "information is accepted and acted upon".

QUESTION 18 - IS THERE ANYTHING ELSE YOU WOULD LIKE TO ADD - WHAT HAVE WE FORGOTTEN?

Most felt that the issues were "pretty well covered". Although one rep added that "the importance and maintenance of a safety culture must be stressed to the whole workforce".



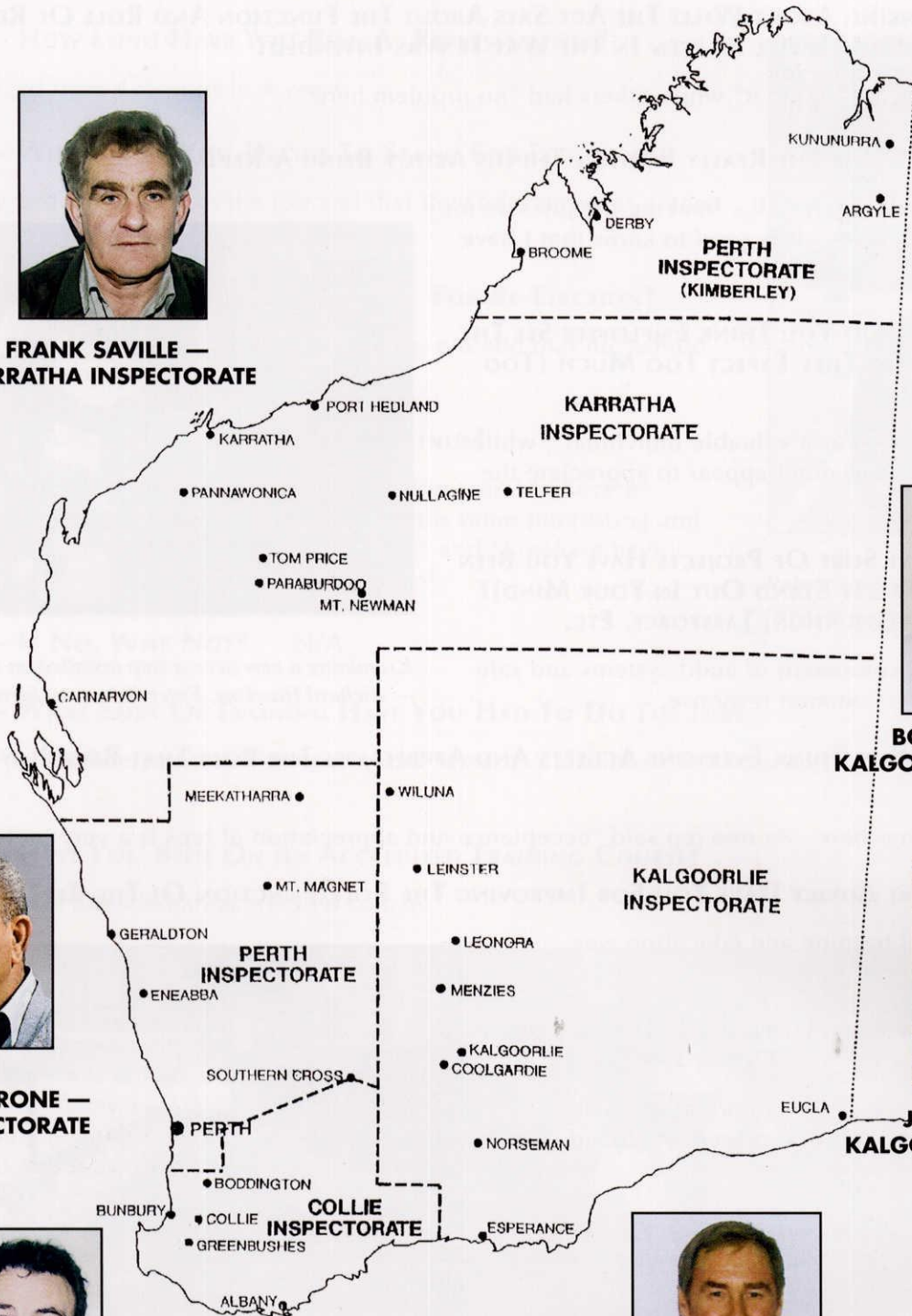
Richelle Madden, Lab Technician (Dampier Salt)

Safety representatives are doing a valuable and worthwhile job. Let's get behind them, and support their efforts to make the workplace safe.

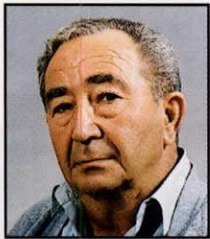
MINING OPERATIONS DIVISION EMPLOYEE INSPECTOR AREAS



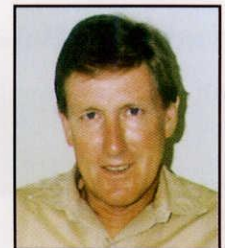
**FRANK SAVILLE —
KARRATHA INSPECTORATE**



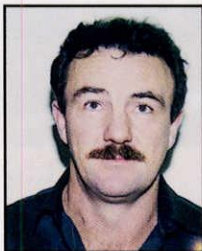
**BOB LEGGERINI —
KALGOORLIE INSPECTORATE**



**CARMEN VETRONE —
PERTH INSPECTORATE**



**JOHN FARROW —
KALGOORLIE INSPECTORATE**



**BRIAN SHERWOOD —
COLLIE INSPECTORATE**



**RON STRACHAN —
KALGOORLIE INSPECTORATE**

BOARD OF EXAMINERS

QUARRY MANAGER'S AND RESTRICTED QUARRY MANAGER'S CERTIFICATES

The new Mines Safety and Inspection Regulations 1995 changed the experience requirements for applicants seeking a Quarry Manager's or Restricted Quarry Manager's Certificate. The old Mines Regulation Act 1946 required that an applicant had "experience in or about a quarry for a period of not less than 2 years, of which period at least one year has been in close association with quarry pit operations including not less than 3 months practical experience in the use of explosives and blasting agents in the pit".

The Mines Safety and Inspection Regulations 2.22(2)(d) and 2.25(2)(c) now require "not less than 2 years, of which period at least one year has been first hand practical experience in production operations in a quarry or open pit, including at least 3 months personal experience in the charging and firing of explosives in the quarry pit".

The Board has defined first hand practical experience as operating trucks, loaders, shovels, dozers, excavators, drills etc. and may include some time operating crushing and screening plant in close proximity to the pit eg. primary crusher and stockpile.

The Board has recognised that some prospective candidates who have experience which was acceptable under the old Mines Regulation Act but who have not yet passed the examinations, have been put at a disadvantage. Consequently amendments to MSI Regulations 2.22(2)(d) and 2.25(2)(c) are being enacted which will give a one year period of grace during which candidates with experience that meets the previous Mines Regulation Act Regulations 3.5(2)(b) and 3.7(2)(b) will be accepted.

WHY POUR MONEY DOWN THE DRAIN?

Too many people failed the Mining Law examinations held during 1996. These 1996 examinations were based on the Mines Safety and Inspection Act 1994 and the Mines Safety and Inspection Regulations 1995 both of which were proclaimed on 8 December 1995. Does this mean that knowledge of the legislation is unacceptably low?

New legislation should not have affected the examination results because it is not considered to be markedly different from the old legislation. If candidates are not preparing sufficiently for an examination they are wasting their own time and that of the markers and administration.

Mining Law coaches advise candidates to spend 150 hours studying the Mining Law to ensure the best chance of a good pass.

The object is not just to scrape through. It is not our intention to recommend a minimum number of hours of study but it has to be said there is no substitute for hard work. You cannot expect that reading through the Mines Safety and Inspection Act and Regulations a couple of times will achieve the required pass mark of 60%.

Candidates are strongly advised to set out a personal study schedule several weeks before the

examination and stick to it. A thorough understanding of the Mines Safety and Inspection Act and Regulations is vital for all aspiring managers. If you need help in arranging a schedule talk to your manager.

Apart from the time involved in sitting for the examination the current fee of \$100.00 should persuade people to adequately prepare for such examinations.

UNDERGROUND SAMPLER STRUCK BY LOADER

A serious accident occurred underground recently when a sampler was struck by a load haul dump (LHD) machine. The LHD operator was tramming a bucketful of ore from the muck pile to a waiting truck. As he travelled along the ore drive, the loader operator saw a flash of light and immediately stopped the loader. He alighted from the loader and found his colleague lying seriously injured alongside the loader.

This incident is not unique; there have been fatal accidents in similar circumstances in the past.

The message to be learned here is that a loader operator has limited vision and has limited means of knowing, by sight or hearing, that a person on foot is close by.

Persons on foot should not approach a loader, truck, or similar machine underground unless the operator has acknowledged that person's presence, has stopped the machine and has indicated that the person on foot can approach.

There must be accepted and understood methods of communication between such

persons underground when a loader is tramming ore or waste.

Casual entry to a production area by persons on foot should be prevented by means of a chain or other barricade, or, where circumstances do not make that practicable, by means of an appropriate sign.

Procedures need to work. If they don't review them and make the changes.

VEHICLES NEAR BLASTHOLES

On a recent inspection at a minesite, the Inspector saw a vehicle that had been driven over a charged area on a bench resulting in damage to signal tubes. Here again are the directives from a Safety Alert issued in 1994.

- Restrict vehicular access to blasting areas to only the essential amount of traffic.
- Do not drive vehicles over loaded blastholes, or over sections of signal tube.
- Situations that could result in signal tube becoming caught or entangled in machinery or vehicles must be avoided.
- Treat signal tube with the same degree of respect as other explosives.

Whilst signal tube systems have been readily accepted in all segments of the mining industry due to improved safety amongst other factors, it must be remembered that they **ARE** explosives and must be treated as such.



AIOH CONFERENCE

The 15th Annual Conference of the Australian Institute of Occupational Hygienists was held at the Hyatt Regency Hotel, Perth from 1 - 4 December 1996. Approximately 170 delegates attended, with the mining industry well represented. Continuing Education Seminars were held for 2 days prior to the conference, and during the conference over 20 organisations participated in the trade display.

The State Mining Engineer, Jim Torlach presented a plenary paper titled:

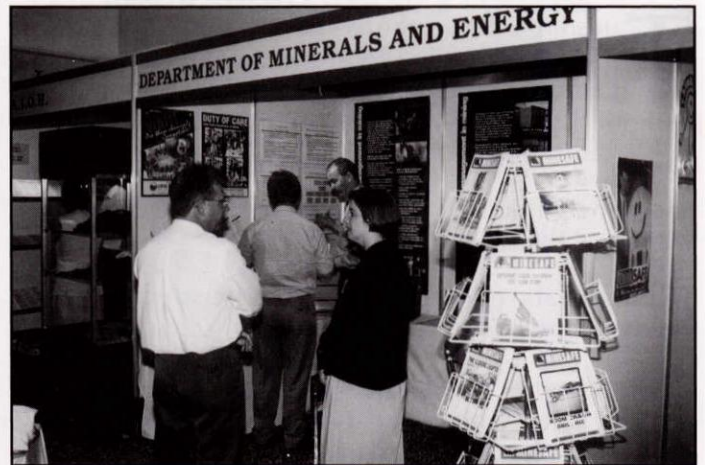
"Diversification in Mining: Implications for Occupational Hygiene".

Principal Scientific Officer, Greg Hewson and Physicist Keith Terry presented two papers at the Conference titled:

"Comparative Assessment of Dust Sampling Heads Used in Western Australian Mines - Implications for Dust Sampling Practice".

"Excuse Me, But is that Thoron on Your Breath? Determination of Intake of Thorium Dusts by Exhaled Breath Measurements".

Principal Occupational Hygienist Mike Rowe was presented with the Bilsom Overseas Professional



Departmental officers ready to answer questions ...

Development Award in recognition of past experience and contributions to occupational health. This award allows Mike to attend the American Industrial Hygiene Association Conference and Exposition in Dallas this year, and to visit the Bilsom headquarters in Sweden. The award also funds additional visits and Mike has selected occupational hygiene organisations in the USA and Great Britain.

WA'S FIRST QUALIFIED FEMALE MINE MANAGERS

Sabina Shugg and Carmen Letton became the first women to qualify as mine managers in Western Australia when they were awarded their First Class Mine Manager's Certificates in February.

The Certificate allows them to manage any type of mine in WA and is recognised throughout Australia as the highest qualification in mine management.

Sabina currently works as a mining engineer for the Golden Grove joint venture at the Scuddles zinc-copper mine 225km east of Geraldton, while Carmen is due to return from maternity leave in March to resume her work as mine planning engineer at Boddington Gold Mine.

While pleased to have reached the pinnacle of mining engineering, Sabina admits that it was more a byproduct of her lifestyle, rather than a specific goal.

"I virtually fell into a mining career through working in the bush", she explained. "I have lived in the bush for a long time except for going to school in Perth".

Carmen said she really liked working in the mining industry and recommended it as a career for the "tougher souls".

She said she had enjoyed her experience working underground and had been reluctant to return to surface work after 18 months.

"It is not as difficult these days, in that you really need more staying power than physical strength".

GOOD COMMUNICATION = GOOD SAFETY

Tuesday 5 November 1996, became a significant milestone in the life of the Brockman Number 2 Detritals Project. The site achieved 12 months without the occurrence of a Lost Time Injury (LTI).

On Monday 18 November 1996, the site reached another significant safety milestone of 12 months without a lost work day.

To put the above performance into perspective one needs to consider the following points:

- Personnel at Brockman represent 5 companies and carry out a wide diversity of roles in a typical open pit mining and processing operation. The companies include Hamersley Iron (Proprietor), CSR Contract Mining (Principal Contractor), Roche Bros (Sub-contractor Mining), SGS Australia (Sub-contractor Laboratory) and Nationwide (Sub-contractor Catering).
- For the greater part of the 12 month period the project has operated 24 hours per day 7 days a week (excluding shift change weekends), with employees working 12 hour shifts.
- Employees work a 6 week on one week off roster and commute from Perth on a fly in/fly out basis.
- Located in the remote semi arid Pilbara region, Brockman employees are subject to hot daily temperatures during summer months.

Achievement of a zero Lost Time Injury Frequency Rate (LTIFR) and Injury Index (II), did not come without a lot of hard work and commitment from all involved. The key to success was the ability of 5 companies to work together as a team in pursuit of an agreed goal.



Site safety committee members.



CSR internal housekeeping audit/inspection.
Felix Hesenein, Leading Hand (left) and Martin Uyllatt, Boilermaker.

Thanks must also go to off-site personnel who provided expertise and encouragement in support of the site effort.

Listed below are activities, objectives and strategies the site considered to be important in achieving the year's safety performance improvement.

- Joint development, implementation and commitment to a Site Safety Management Plan.
- Implementation by the Site Safety Committee of a program of internal auditing for all critical procedures on site, supported with follow-up external audits of safety and environmental processes.
- Comprehensive Alcohol and Drug Policy and Procedures written and implemented by the Site Safety Committee, who phased the policy in using external consultants to provide an extensive education program.
- Improved housekeeping standards and frequent formal housekeeping and hazard inspections.
- Thorough investigation of all accidents and incidents with full participation by Safety Representatives and improved management and communication of corrective actions.
- Development of a Safety Training Matrix for all personnel to ensure safety on the job.
- Safe work instructions and procedures for all non routine or significant jobs and a formal feedback loop to review effectiveness of the procedures.

Finally a genuine attempt by all personnel at ensuring open and honest communication underpinned the whole safety effort. The challenge now is to remain focussed in pursuit of continual improvement, and accident and incident prevention.

WHAT'S ON

AUSTRALIAN CENTRE FOR GEOMECHANICS



TAILINGS MANAGEMENT FOR DECISION MAKERS

"SUSTAINABLE DEVELOPMENT IN PRACTICE"
PERTH, APRIL 17 - 18, 1997

This course examines the decision making processes, the real cost of tailings disposal, and the impact that can have on the profitability and viability of a company will be highlighted.

UNDERGROUND MINE DESIGN AND GROUND CONTROL

KALGOORLIE, MAY 21 - 23, 1997

A course to provide participants with the basic principles and practical aspects of rock mechanics and their use in designing safe and economic underground mine openings and ground support systems.

AN INTRODUCTION TO ROCK MECHANICS

PERTH, JULY 24 - 25, 1997

A practical course designed to promote an understanding of the terminology and concepts of basic rock mechanics, the reasons behind particular rock mechanics design approaches and the impact of particular rock mechanics solutions to the design and cost of rock excavations.

MINE SLOPE STABILITY

PERTH, AUGUST 27 - 29, 1997

The course addresses issues such as the recognition of slope instability, the mechanisms of slope failure, techniques for reducing the likelihood of failure, the data required to assess slope stability and slope design, and the various analytical and numerical methods available for stability analysis.

ROCK SLOPE DAMAGE CONTROL (BLASTING)

PERTH, OCTOBER 2 - 4, 1997

This course examines the mechanisms of rock breakage that operate within a blast, considers means of minimising wall damage adjacent to the blast and imparts an understanding of the effects that blasting can have on the geological structure adjacent to the pit and hence on the stability of the final pit wall. The course is aimed at blast designers, planning engineers and those responsible for drilling and blasting operations in the field.

VENTILATION OFFICER'S COURSES

15 - 16 May 1997	Surface
18 - 20 June 1997	Surface/Underground
14 - 15 August 1997	Surface
5 - 7 November 1997	Surface/Underground

Venue: Department of Minerals and Energy
Level 9 Theatre, 100 Plain Street
EAST PERTH WA 6004

Enquiries can be made to Jim Lawrence

Tel: (09) 222 3095

Fax: (09) 325 2280

NOISE OFFICER'S COURSE

7 - 11 JULY 1997

Venue: Curtin University
Curtin Consultancy Services

This course is designed to help applicants gain accreditation as approved Noise Officers for the purpose of the Mines Safety and Inspection Regulations 1995. The existing Noise Officers who wish to renew their accreditation can register for a refresher course. Please note some refresher courses can be organised in regional mining centres if required.

For further information contact Tania Faulkner

Tel: (09) 351 3300

Fax: (09) 351 3290

STAFF CHANGES

Welcome to **Tracy Long**

(Occupational Hygienist) who has been seconded from Worksafe to assist in the Perth Office while

Greg Hewson (Principal Scientific Officer) is with Olympic Dam for a year. **Mike Rowe** will be acting in Greg's position while he is away.



Tracy Long

Patrick Burke (District Mining Engineer, Kalgoorlie) has been transferred to Perth for six months to replace **Jim Griffin** (District Mining Engineer, Perth) who has been seconded to Big Bell.

Farewell to **Michael Burns** who has resigned from the position of Contracted Environmental Officer, and to **Wayne Streets** and **Virginia Simms** whose short term contracts with the Division have finished.

INCIDENT ALERT

INCIDENT

A welder working inside a leach/adsorption tank at an Indonesian mine was electrocuted when he picked up a portable light from the floor of the vessel. The hand lamp was plugged into an auxiliary 240 volt outlet of the welding power source. The floor of the tank was wet and so were the welder's gloves, boots and clothing.

CAUSE

The hand lamp was 'healthy' and its metallic parts 'earthed' in the usual manner. An insulation fault had developed between the output winding and the frame of the welding power source. The accident occurred when the victim took hold of the hand lamp and completed the electrical circuit.

PREVENTATIVE ACTION

It is imperative that the output windings of arc welding power sources remain electrically insulated from the frame and any input or auxiliary output power circuits. An immediate check is warranted, and should be repeated periodically.

COMMENTS

This accident provides a stark reminder that an electric shock from arc welding apparatus can kill.

In New Zealand in 1995 an experienced welder working in a chute paid the ultimate penalty when he risked changing the electrode with an ungloved hand.

Although an electric welding fatality has not been recorded in Western Australia since 1988, a staggering 400 injuries (all types) involving arc welding equipment were the subject of workers compensation claims last year, that is a lot of 'near misses'.

The high incidence of apprentices/trades assistants receiving shocks while holding in place items being 'tacked' by the welder, needs urgent attention.

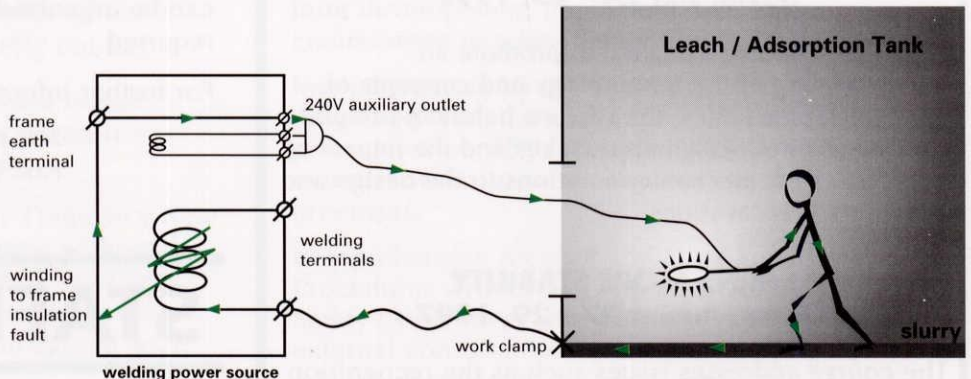
Other areas requiring close scrutiny include:

- welding in confined spaces;
- welding in wet locations;
- maintenance of welding apparatus; and
- multiskilling competency levels.

There is a wealth of information related to electric welding safety and one need search no further than the following documents:

- AS1674.2 - Safety in welding and allied processes.
- AS2865 - Safe working in a confined space.
- Health and Safety in Welding, published 1994 by the Welding Technology Institute (09) 354 7797.

For further information contact Denis Brown Tel: (09) 222 3546.



Indonesian arc welding fatality.


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