



MINESAFE

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

INFERNO!



1992-LET'S NOT REPEAT IT!

SURFACE ACCIDENTS

1992 was a bad year for accidents involving surface dump trucks. There were almost as many accidents or incidents as there are weeks in the year, despite the publicity and emphasis placed on prevention.

Machinery is not operated by administrators and it is vital that reports and information about accidents is **communicated immediately to machinery operators.** The process should include discussion on prevention of accident and incidents of this type.

Both formal safety meetings and toolbox meetings provide effective mechanisms for fast communications. Managers and supervisors need to act quickly if a repeat incident is to be

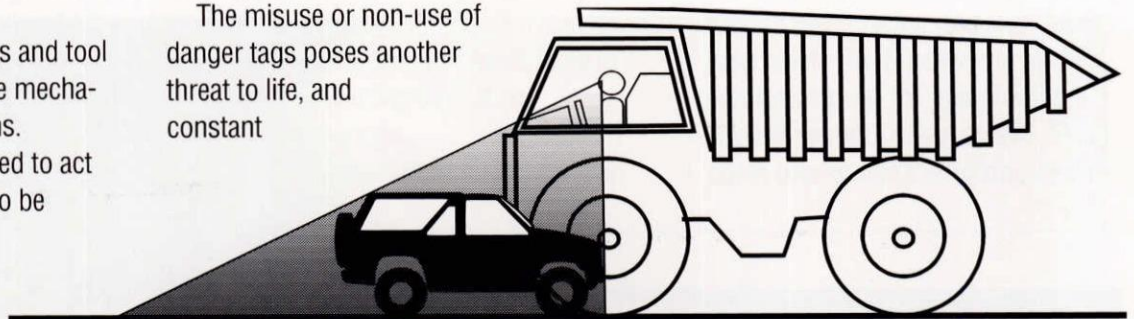
avoided at their site. Moreover, they need to come to terms with the fact that many operators do not fully appreciate the level of risk attached to certain actions. e.g. a light vehicle driver placing the vehicle within the blind spot area of a dump truck.

All dump truck drivers, crane and drill operators and persons working near powerlines need to know what to do to avoid any likelihood of electric shock as well as the dangers from fire and explosion. It is extremely worrying from an inspectorate view point that many are not aware, or at least have only a vague idea, of the lethal danger to which they are exposed.

The misuse or non-use of danger tags poses another threat to life, and constant

vigilance is necessary to ensure the rules are obeyed. Most importantly, employees need to understand why the rules are there.

46 accidents/incidents suggest that a self audit on each mine may help to ensure that the pattern is not repeated in 1993.



The shaded area represents the area in front of the truck not visible to the driver

UNDERGROUND INJURIES

If you work underground in a metalliferous mine you are twice as likely to be seriously injured (lose more than two weeks from work) as a surface mine-worker.

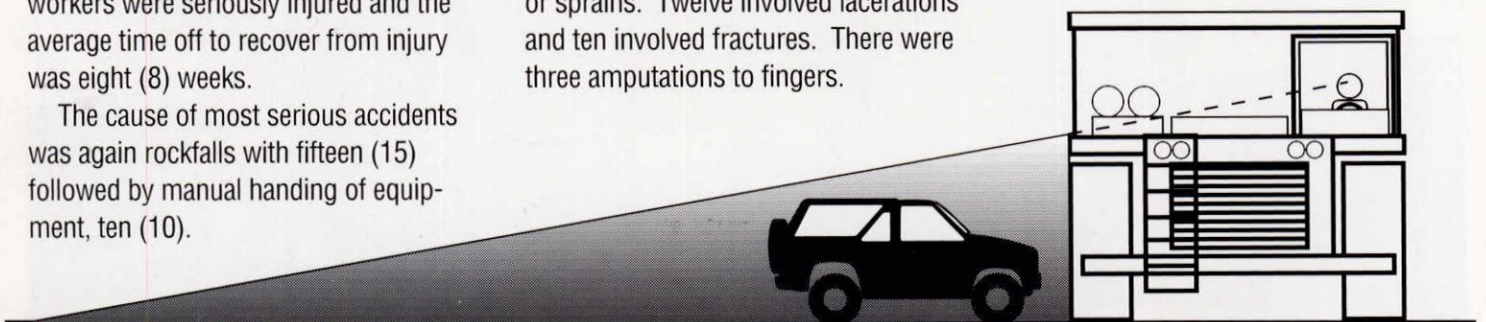
In 1992 sixty four (64) underground workers were seriously injured and the average time off to recover from injury was eight (8) weeks.

The cause of most serious accidents was again rockfalls with fifteen (15) followed by manual handling of equipment, ten (10).

The most injured part of the body was the back with fifteen (15) injuries followed by the hand and fingers with twelve (12), the knee seven (7) and ankle five (5).

Seventeen of the injuries were strains or sprains. Twelve involved lacerations and ten involved fractures. There were three amputations to fingers.

Line of vision — to the offside



EDITORIAL

Training is a basic requirement in any workplace, and mines have a comprehensive range of programs available to them either on site or externally.

Training however, often concentrates on the practical delivery of skills to the detriment of the broader educative component needed by mineworkers if they are to properly appreciate the hazards associated with work activity.

The difference between the two may be subtle, but a haul truck driver, for example, who is considered a "gun operator", is at risk if the dangers associated with tyre fires and explosions are not properly understood. There is evidence to suggest that among many operators they are not.

A regular flow of information goes into mines, where too often it winds a tortuous path through "in" and "out" trays before coming to rest in a library, file or belatedly, a notice board where it

may or may not be read by these most likely to be affected.

The 1990 Amendment Act requires employers to provide information to employees and improve their understanding of safe work practices in mines. Providing that information should go beyond signage, brochures and other material that concentrates on how things should be done instead of why particular safeguards are in place. It should extend to taking people through the information at first hand.

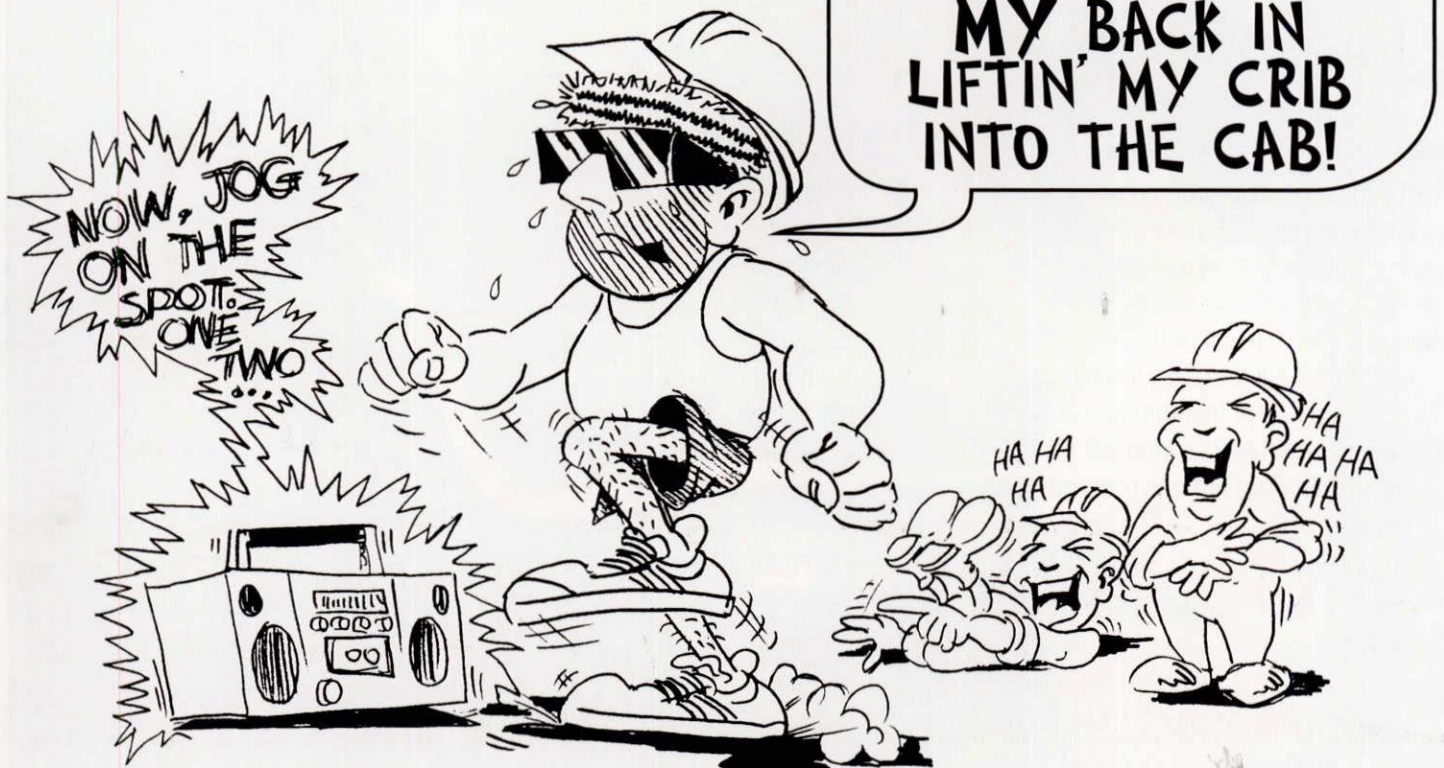
Too often, it is the assumption that people know "why" which is getting workers hurt. We should never take any aspect of safety for granted.

Catherine Stedman
Editor

WELCOME !

**MINESAFE
INTERNATIONAL
1.9.93**

The Minesafe Editorial Committee would like to take this opportunity to welcome all delegates to the Second MINESAFE 1993 International Conference and hopes, in particular, that interstate and overseas guests find their stay in Perth a rewarding and pleasant experience.



"KICK START" IS A NEW START ON THE COALFACE

Out on the coalfields, Western Collieries' seven hundred employees are responding to the company's initiatives to improve their fitness and health both in and out of the workplace.

Company General Superintendent, Kevin Douglas, believes that company policy must clearly demonstrate genuine concern for the health and welfare of employees as well as a commitment to assist, wherever possible, with the successful rehabilitation of injured employees. Communication and a good working relationship make it happen.

WCL's medical centre has an important part to play in the process. The centre is staffed by two nurses and a visiting occupational physician who ensure that medical support to the workforce is actively promoted.

A system of providing alternative duties for employees during rehabilitation periods has received support from

local miners, doctors and health service providers. Programs for back and neck care rehabilitation are being developed which will help prevent further injury or recurrence once employees return to normal duties.

Nursing staff have also developed a Health Assessment Program which became available in February this year, initially to employees of 50 years and over.

Noelle Emmett, the Senior Industrial Nurse, would like to call the program "Kick Start" as it is a facility for employees to enable them to begin considering the health and lifestyle changes which may enhance the rest of their lives.

The Program assessments include:

- Blood pressure
- Cholesterol and Triglyceride levels
- Lung function test
- Ergonomic work load, and recovery rate

- Body fat measurements including skin fold testing.

The nursing staff believe that the system will be developed further, allowing it to be extended to all employees by the middle of 1993.

It is not necessarily the intention of the program to treat any problems uncovered by the assessment, but employees will be made aware of any problems and can then take the information to their doctor if they wish.

Noelle believes that employees will appreciate the benefits of the program, and take advantage of the care the company and the medical staff have taken in setting up the program.

Kevin Douglas says that in the long term, both the employees and the company stand to gain considerable benefits from this and other programs that reflect the mutual concern for employee health safety and welfare.



Senior Industrial Nurse Noelle Emmett, tests the capacity of Ventilation officer Peter Riley to blow hot air.

AMENDMENT TO MINES REGULATION ACT OCCUPATIONAL NOISE REGULATIONS

In January this year a letter was sent to all Registered Managers about an amendment to Mines Regulation Act Regulation 9.17 which effectively lowers the action level for occupational noise exposure on an average day from 90dB(A) to 85dB(A).

The amendment stems from a national noise standard adopted by Western Australia which recommends the action level for employees' noise exposure to be at 85dB(A). The action level is not a "never to be exceeded" limit, but just as it says, a level at which

certain actions are required to protect employees hearing. It should also be noted that Regulation 9.18 requires the manager to reduce workplace noise as low as practicable irrespective of the action level stipulated in Regulation 9.17.

The amendment will not place any additional and immediate responsibility on Registered Managers to instigate more engineering noise control measures other than those already practically available in terms of economic and technical factors. However management should ensure that admin-

istrative measures such as the provision of adequate personal hearing protectors, signs, information, instruction and training of employees exposed to noise above the amended action level are in place. Existing operational noise reports should assist with the review.

Regulations 9.21 and 9.25 will also require changes to approved procedures, which at the time of going to print were expected to be finalised by late February 1993.

Please call Jerry Wilczewski on 222 3128 for further information.

HAMERSLEY IRON - SERIOUS ABOUT SAFETY

Safety awareness is becoming an important aspect of everyday life and it is encouraging to see that today it is given the priority it deserves.

The recent implementation of the HIsafe program at Hamersley Iron-Dampier operations, has demonstrated that top level management is serious about improving their safety performance.

Management believes that the key element in achieving the best possible safety performance with the HIsafe system is the participation of all employees.

Already a large percentage of staff has

participated in the 2 day training course and Hamersley is committed to ensuring that in time, all employees participate in the program.

A key area of the course involves a practical plant inspection on the last day, which is used to measure the effectiveness of the overall program.

General Manager Paul Piercy had this observation to make about the inspections, "Many people have been critical of the focus of Mines Inspector's reports. Some have described the points being reported as trivial in nature. The number of defects picked up during the inspec-

tions far exceeds those noted by the Mines Inspectors. I find it interesting that we are critical of the focus of external inspections while we are more so of ourselves."

Paul Piercy believes that the success of the internal inspections show that the aims of HIsafe are worthwhile.

Hamersley Iron has a large way to go on the HIsafe path, but it's displayed a serious commitment to safety bodes well for the future of an improved safety performance and the elimination of accidents.

C.A.T.S. "PURRRRRRRFECT" THE ART OF SAFETY

To augment the current crew-based safety program and to provide a focal point for promoting safety performance at the Worsley Refinery, a new incentive scheme based on reducing serious injuries was introduced in October 1990. The promotion scheme, known as Community Assistance Through Safety (C.A.T.S.), is company funded but is managed by the Refinery Safety Review Committee, which assesses requests for future projects.

"The Scheme operates along the following guidelines:

- for every continuous 5 day Serious Injury free period achieved by the Refinery work force Worsley Alumina pledges \$500 into a fund "kitty";
- on reaching a present target the fund

will be used to purchase equipment which will be donated to a local hospital or other suitable charitable group (Flying Doctor, Silver Chain, for instance);

- each continuous 5 day period will stand alone so once achieved the amount credited to the "kitty" is retained;
- should a serious injury be recorded at any time during a 5 day period, the count will start again".

Management at Worsley Alumina believes that the C.A.T.S. scheme is an ideal way to keep safety issues at the forefront of everybody's minds in their daily routines. The workers are also aware of the importance of safety in their industry and the scheme has given them extra incentive to achieve their injury free targets. They have ownership of the

scheme and derive satisfaction from the community benefit which results.

Representatives from the C.A.T.S. Safety Review Committee present the Community Health and Development Centre with a cheque for the purchase of a bed wetting alarm system.



ANNA GOES BUSH

Just recently, our intrepid Technical Officer and Associate Editor MINESAFE, Anna De Filippi, had the good fortune to experience life as an underground miner, spending almost four weeks at the AMC - Golden Crown mine in Cue and a week at the Murchison Zinc - Golden Grove operations.

The purpose of this experience was for her to gain further knowledge and experience of the principles involved in the practice of underground mining.

Not content with just observing the operations of an underground mine, Anna wanted to be in the thick of things; in other words, she wanted to get stuck into some dirt. The desire to muck in was not due solely to the thirst for knowledge, it was also motivated by a feeling that most of her co-workers were a little nervous of someone from the Department of Minerals and Energy Inspectorate in their midst. Needless to say she rolled up her sleeves, donned her safety helmet, and got into some serious underground mining, and literally became just one of the crew.

While at Golden Crown and Golden Grove, Anna gained experience in general mining methods, namely:-

- building walls for ventilation purposes;
- operating front end loaders;
- timbering;
- acting as an offsider on a diamond drill; and
- helping charge up.

All the hard work didn't occur underground, however, with a couple of excursions into the surrounding coun-

tryside turning into object lessons in how to avoid running over the native fauna - particularly of the emu variety - as well as perform gravity defying feats in four wheel drives.

According to Anna, one of the most valuable aspects of her stint underground was the chance to see the mining process from the workers' point of view. As she puts it, "it helped put the pieces of the puzzle together."

Miners taking a well earned break in one of the Golden Crown Crib rooms.



VIDEO VIEWING

THE PIPER ALPHA DISASTER ICI AUSTRALIA

This compelling video has a message for the mining industry, and should be on the top of safety trainers lists.

The video examines the critical errors in a hazard management system that cost 167 people their lives.

The video is approximately 45 minutes in length and can be obtained from ICI Australia (Melbourne).

BRIEFLY SPEAKING

Safety training and education was on the minds of a large group of representatives from Industry who attended a briefing at the Department on 28th January.

Assistant Director General, Dr Colin Branch welcomed the visitors from mining contracting companies, equipment manufacturers and drilling companies.

The group was there to have a look at the on-site accident prevention presentations being run by Catherine Stedman and to listen to the State Mining Engineer, Jim Torlach, who briefed the group on the newly proclaimed Mines Regulation Amendment Act 1990.

The accident prevention workshops were trialed in the Murchison in mid 1992 and proved to be a welcome addition to education and training. The slide presentation has been developed for mine crews, and the 100% West Australian mine accidents and incidents discussion with the participants concentrates on the underlying reasons for many accidents - poor communication,

assumptions about state of knowledge and the lack of understanding and therefore lack of respect for the everyday hazards people face at work.

Catherine has delivered the presentation in crib cabins and board rooms, at dawn and dusk and has been there, on occasion, to greet the odd night shift.

"The message is important", Catherine says, "but so is making sure that the operation is not disrupted unnecessarily - the co-operation has been great and the mineworkers themselves have been enthusiastic and involved."

Catherine admits that the pressure is on sometimes, particularly at 5.30 am when she has a problem forcing brain and mouth to work in sync, and there's audible mutters like "this better be good" from bemused miners who can't quite see why they are there. That only lasts until the session is underway, and as the participants are constantly looking at and discussing situations which trigger the response "that could happen to me" - the interest is total.

Many of the Inspectors are also becoming involved and are taking part as both presenters and discussion leaders. "Their involvement is very important" Catherine says, because as well as being able to discuss technical detail, their contribution is helping miners to see Inspectors as people who are there to help them.

The presentations are also about breaking down barriers which I think is necessary before good communication can take place, and good communication is, in itself, a prevention factor. That's why the personal contact is important. Over this year we will develop the network of presenters because there's a lot of people out there, about 34 000 of them in fact - a daunting but not impossible task!"

The employees of many companies who attended the briefing have taken part in the presentations, and the positive response to the concept by "head office" will ensure that many more will.

And the expectation? "If the presentations make people stop and think first, then we're doing our job."

Many who attended the briefing have expressed interest in regular contact with the Department in this way. The success of this exchange should make that happen.



Above—Almost 100% interest! - Broken Hill Metals, Southern Cross mine crew attended a safety lecture.

Right—Catherine "just because the overhead projector's broken down doesn't mean we're cutting this bit out" Stedman at Yilgarn Star.



PROCLAIMED AT LAST

Effective from 1 January 1993, the **MINES REGULATION AMENDMENT No. 85 of 1990** is now in place. This Act brings into the Mines Regulation Act the essential Occupational Health Safety and Welfare Act provisions, which are the general duty of care for employers and employees, and the consultative mechanisms involving Health and Safety Representatives and Safety Committees.

A review of the sequence of events in the evolution of health and safety legislation in WA is of interest:

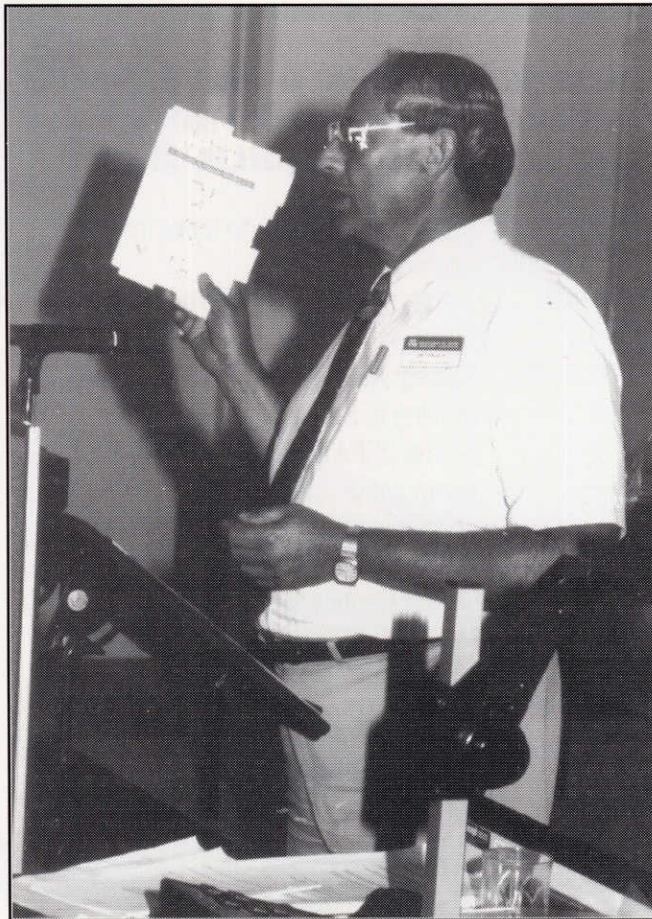
- 1984** The OHSW Act was proclaimed
- 1987** The OHSW Act Amendment Act was assented to
- 1988** The OHSW Act Amendment Act was proclaimed bringing it into effect for industry generally
- 1988** Development of the MR Amendment Act
- 1989** MR Amendment Act drafted with an expected proclamation in January 1990
- 1989** MR Amendment Act assented to 22 December (1990)
- 1993** Proclamation 1 January 1993.

It has therefore taken five years to bring this important piece of safety legislation into effect.

Fortunately the industry has been moving, with encouragement from the Inspectorate, to implement the essential principles and provisions of the legislation in anticipation of its proclamation, and some of the lost time has been made up.

It is appropriate at this time to confirm the validity of this legislation.

Concern has arisen in some industry sectors over claims made that the Amendment Act is deficient and does not import the full provisions of the OHSW Act into the MR Act. Such claims are completely invalid. The legislation in its final form, (including the



State Mining Engineer Jim Torlach emphasises a point about the General Duty of Care.

necessary regulation amendments), was referred back by the Commissioner for OHSW for Crown Law advice and review by Parliamentary Counsel. No deficiencies were identified.

OPERATION OF THE ACT

It is of critical importance that the essential principles of the Act are widely and rapidly disseminated and fully discussed and understood at all levels.

To assist in comprehension of the requirements of the general duty of care for employers and employees, the Commission for Occupational Health Safety and Welfare has produced a guidance note titled "THE GENERAL DUTY OF CARE".

This booklet is available from the Department of Occupational Health

Safety and Welfare and gives an explanation of the requirements in clear and readily understood terms.

Guidance notes are also available on:

- Election of H & S Representatives
- Health and Safety Representatives and Committees
- Resolution of Health & Safety Issues at the Workplace

Although all of these publications refer to the OHSW Act, the principles are clearly stated and can be cross-referenced to the MR Amendment Act.

It is expected that these publications will be revised and referenced to the Amendment Act and re-printed in the near future. For example, reference to the "Commissioner" will translate to "the State Mining Engineer".

The Mining Engineering Division has previously published brochures and a Bulletin giving guidance on the Amendment Act essentials.

Considerable training in the new legislation and in OH & S principles has been provided by major mining companies in recent years, in anticipation of the eventual proclamation of the Act.

A joint HSR training course which was developed originally by the Chamber of Mines & Energy and the AWU in conjunction with TAFE, has been conducted in the Eastern and Murchison Goldfields. Some 1300 persons have attended 54 courses run over two years.

If the consultative process is extended and improved in the industry we may expect to see the marked improvement in safety performance of recent years carried forward.

"A GOOD POLICY IS A PREVENTATIVE MAINTENANCE PROGRAM FOR PEOPLE".

THE LOUD APPLAUSE THAT GREETED THAT STATEMENT BY ASARCO MANAGER, RAY HARDY, SUMMED UP THE FEELINGS OF THE CAPACITY AUDIENCE THAT ATTENDED THE ALCOHOL AND OTHER DRUGS SEMINAR HELD IN MEEKATHARRA ON 18 FEBRUARY.

The Seminar, organized by the Chamber of Mines, and the Department had a range of excellent speakers who canvassed the important issues related to Alcohol and Other Drugs in the workplace.

Dr Des Kelly, Director General of Mines, on what was one of his last appearances as CEO of the Department, opened the Seminar and spoke about the positive response the industry was making to a community problem, exemplified by the seminar format designed to provide information that would

assist organisations to make informed decisions.

The Seminar was also the swan song for Steve Allsop from the Drug and Alcohol Authority, who will shortly be moving to South Australia.

The OSPAT performance testing computer program created great interest as an alternative to drug testing, particularly as it is non-invasive and provides the information that people actually want about work performance in safety critical situations.

Simon Thompson from Plutonic Gold,

presented a case study on their Alcohol and Other Drug Policy which participants generally agreed was a positive working model that had the support of employees. In his presentation, Simon emphasised that having an Employee Assistance Program in place first was a necessity. He commented that the EAP was now providing a comprehensive, confidential service to employees on a wide range of problems of which alcohol and other drugs was only a small part. Carlo Culogeno from INDRAD spoke to a receptive audience about EAPS as a constructive workplace intervention strategy.

Cathy Ferrins from Elf Services and Alan Stenhouse from the Chemistry Centre of WA shed light on the toxic influences on the body, effective testing methods and the legal implications of testing.

Detective Geoff Christmas from the Drug Squad educated the audience about commonly used recreational drugs and identifying the users. He could have easily held the floor for a day judging by the questions and responses from the audience

Catherine Stedman from the Department, started the program by outlining the legislative guidelines already in place, and discussed some of the reasons why more prescriptive legislation is not an appropriate response.

Chairman Gary Arcus from the Chamber of Mines, kept everyone on their toes, and had his work cut-out for him at the end of the day directing the flow of questions from around the room.

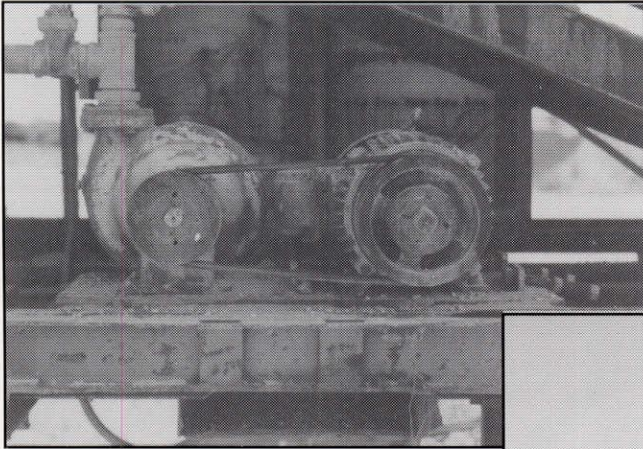
Another Seminar will be held in Kalgoorlie in early April, and will, judging by early expressions of interest, be as successful and as informative as this Seminar proved to be.



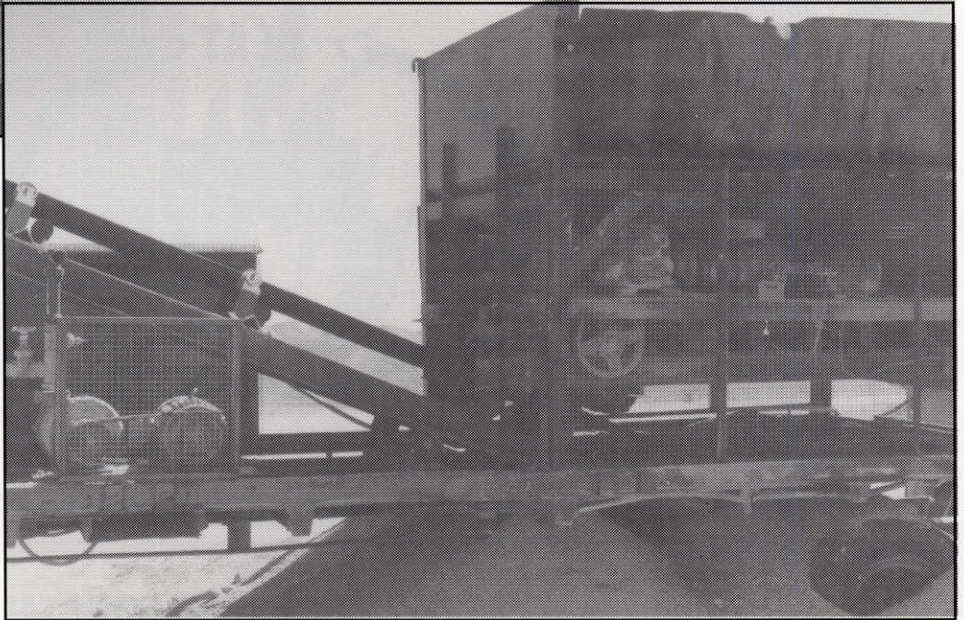
"Doing the Seminar stretch" Jim Black and Ray Hardy, Asarco-Wiluna



"Not one drop will pass these lips" Jim Lennard and Des Shaw - Eltins

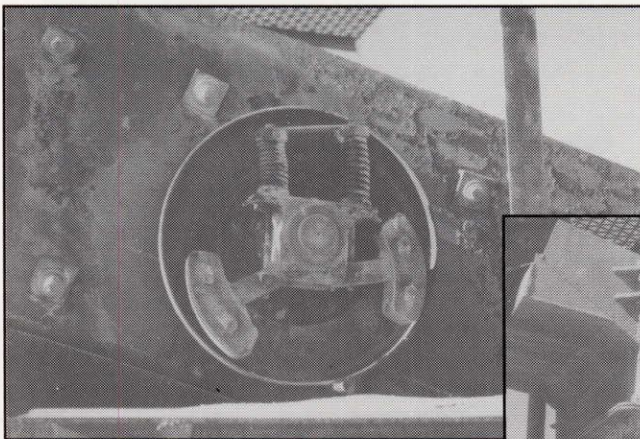


BEFORE

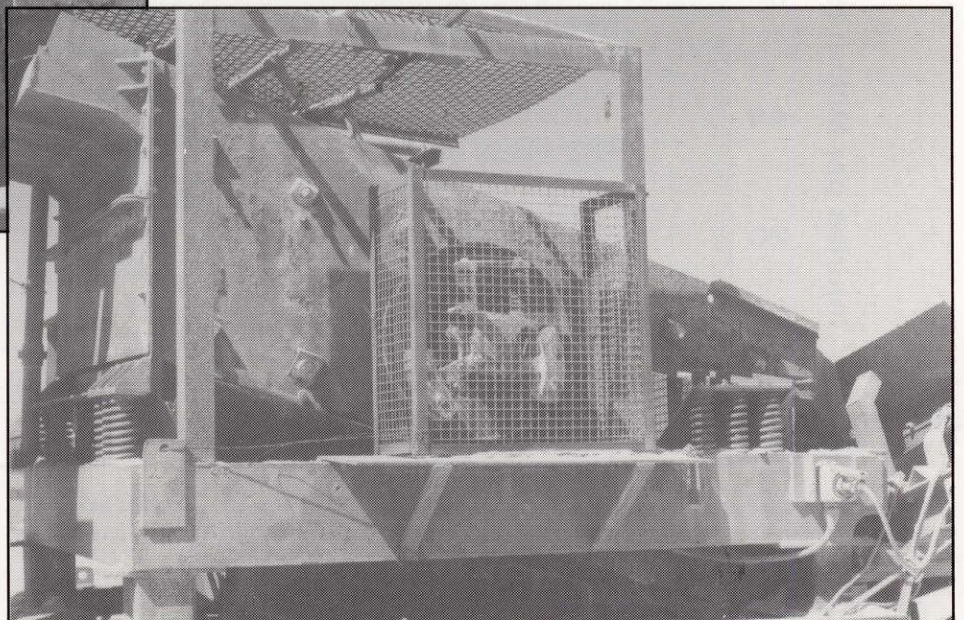


AFTER

PROPER GUARDING SAVES LIVES AND LIMBS



BEFORE



AFTER



Fires can endanger life and limb and will almost invariably prove expensive in lost equipment and production down-time. A small fire can rapidly escalate into an uncontrolled inferno if not promptly detected and dealt with.

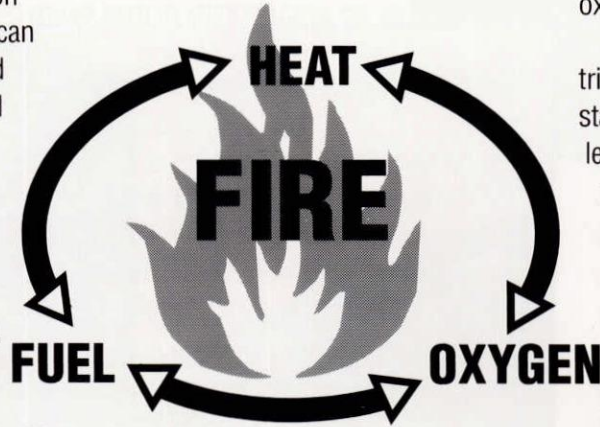
As an indication of how prevalent fires are, the Inspectorate received advice of "reportable incidents" in the six months from July - December 1992 and of these, 50 were reports of fires. More recently, 10 fire reports were received in a single week! Obviously, if only a small percentage of these fires turn out to be serious conflagrations,

there is still a great potential for pain and suffering and financial loss. Isn't it better to prevent the outbreak of smallfires? That way, the small ones

never have a chance to become the big ones that do real damage!

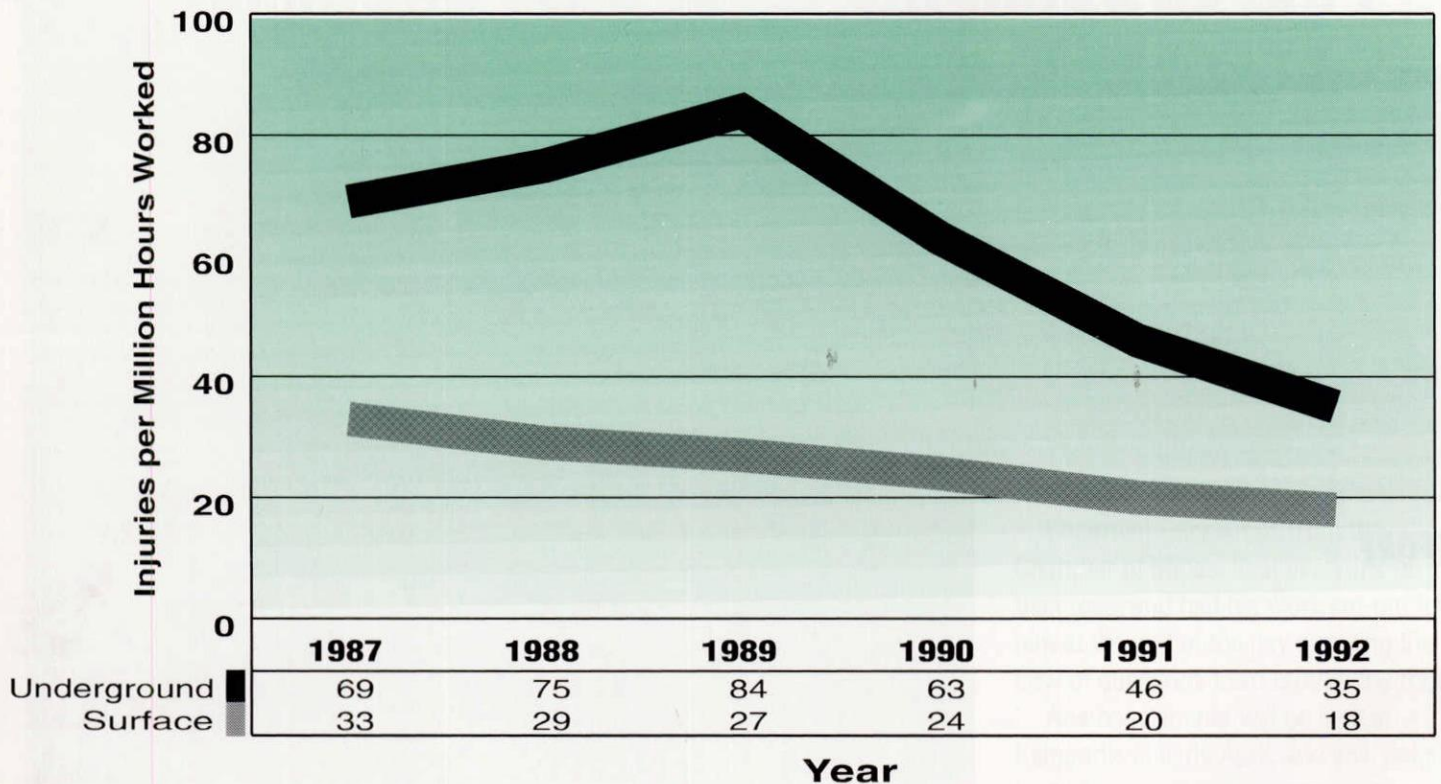
Remember that a fire needs three things to start and sustain itself — Heat, fuel and oxygen.

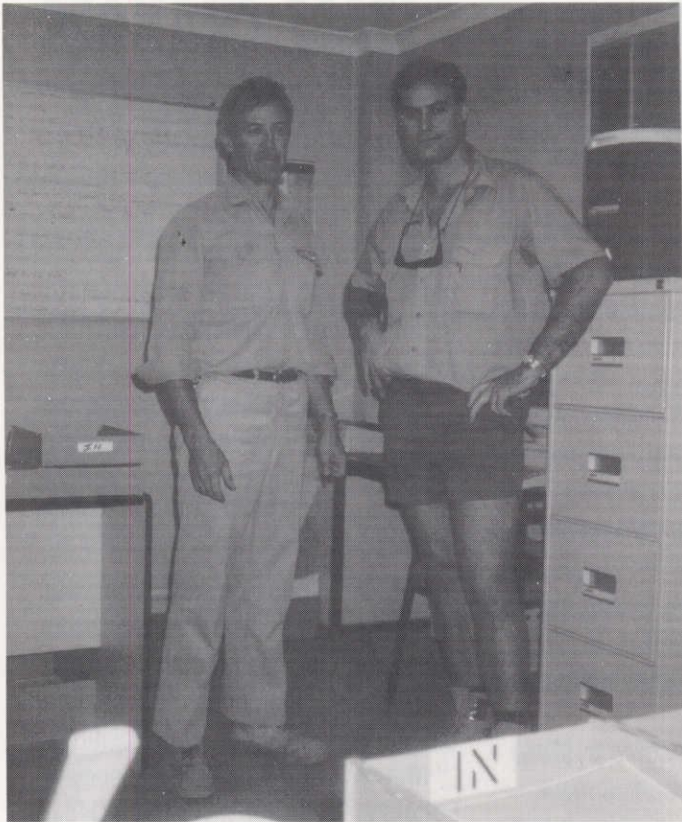
Remove one of the elements of the triangle and the fire can't start, or if it has started, it can't continue to burn. Don't leave inflammable waste lying around, make sure that vehicle fuel and hydraulic lines are intact, protect or screen hot engine parts which might come into contact with fuel or oil, beware when using cutting discs or gas cutting equipment and always have available the correct type and capacity fire extinguisher.



HAVE A BURNING DESIRE TO PREVENT FIRES!

WESTERN AUSTRALIAN METALLIFEROUS MINES Injury Frequency





Pat Keogh, Mine Storeperson—now a certificated crane driver with Lindsay Sawyer (right) Loss Control Officer-Plutonic Gold Mine

MINING ENGINEERING DIVISION

PUBLICATIONS ORDER FORM

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WHAT'S ON

WA CERTIFICATES OF COMPETENCY EXAMINATIONS

- First Class Mine Managers
- Underground Supervisors
- Quarry Managers
- Restricted Quarry Managers

The examination date for the above Certificates is Monday, April 19, 1993.

The closing date for applications was Friday, March 5 1993.

Enquires can be made to Melanie Calder on (09) 222 3269.

COMING UP

XVIII INTERNATIONAL MINERAL PROCESSING CONGRESS, 23 - 28 MAY 1993 - SYDNEY, NEW SOUTH WALES.

INFORMATION:

Mrs Charmayne Perera

CONFERENCE MANAGER

The Australasian Institute of Mining and Metallurgy

Telephone: 613 347 3166

Facsimile: 613 347 8525

MINES RESCUE COMPETITIONS:

Collie 4 April 1993

Kalgoorlie ... 1 and 2 May 1993

Murchison .. 14 and 15 August 1993

- **Introduction to Hazard Chemicals workshops.**

- **Alcohol and Other Drugs**

1 day Seminar Kalgoorlie.

Contact **Gary Arcus** at the Chamber of Mines (09) 325 2955 for details.

AusIMM CENTENARY CONFERENCE,

30 MARCH - 4 APRIL 1993 -

ADELAIDE, SOUTH AUSTRALIA.

INFORMATION

R.K. Johns

C/- Department of Mines and Energy

191 Greenhill Road

PARKSIDE SA 5063

Telephone: (08) 274 7500

Facsimile: (08) 272 7597.

NEW PUBLICATIONS

Work Practices NUGGET Series 4 pamphlets

- ① Overhead powerlines
- ② Tyre fires and explosions
- ③ Confined spaces
- ④ Laboratory practice
- ⑤ Compressed air safety

POSTERS

- ① **Rockfalls** - sponsored by Western Mining Corporation
- ② **Pit traffic congestion** - sponsored by Leighton Contractors
- ③ **Chemical safety** - sponsored by Liquid Engineering
- ④ **Loose clothing** - sponsored by Brandrill

COMING SOON:

- ⑤ **Falling from mobile equipment** - sponsored by Eltins
- ⑥ **Crushing Plants** - sponsored by Quarry Industries
- ⑦ **Sliding on haulroads** - sponsored by Roche Bros

Rehab Blab No. 3 is now available and can be obtained by contacting the Research Assistant/Librarian, Simon Wood, on (09) 222 3532.

Fatal and Lost time Injuries in Western Australian Mines 1992.

Available March 22 1993.

Telephone: Simon Wood (09) 222 3532

Axtat Data is now available for calendar year 1992 and companies may phone Mark Brown for information on: (09) 222 3093

MINESAFE

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STAFF CHANGES

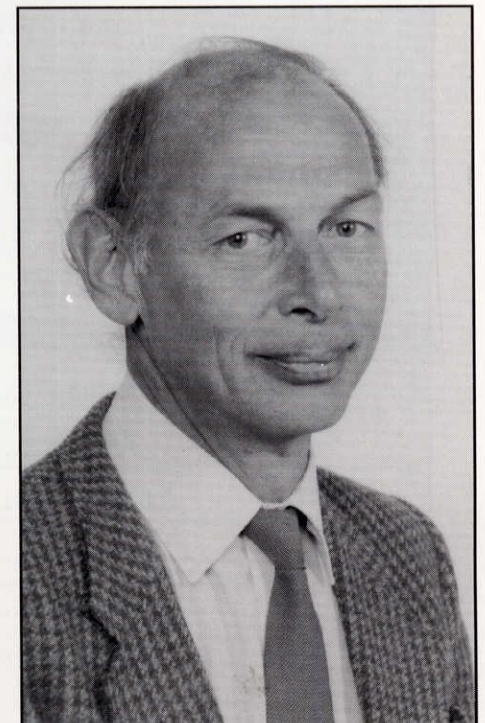
Effective from 16 November 1992, The Assistant Director Coal, Bob Hopkins, assumed responsibility for the Karratha Inspectorate, retaining control of Coal Mining. The objective of this is to spread the administrative load more evenly.

The Assistant Director Metalliferous, Dave Collie, will continue to administer the Kalgoorlie and Perth Inspectorates, as well as retain the Statutory responsibility of Senior Inspector for the State (under the Mines Regulation Act). He will remain the final reference point for referrals or appeals on matters arising from the operation and administration of the Mines Regulation Act Regulations.

Martin Ralph, one of the Associate Editors of Minesafe, has left the Department and taking up a new position with the Industrial Foundation for Accident Prevention.

We thank Martin for his invaluable contribution to the production of MINESAFE.

Gary Hussey is the new Technical Officer - Occupational Health for the Kalgoorlie Inspectorate.



The Assistant Director — Coal, Bob Hopkins

PREVENTING ACCIDENTS CHECKLIST

SIGNIFICANT INCIDENT REPORT NO.34

UNDERGROUND VEHICLE FIRE

THE WORKPLACE

Yes No

Have you taken all practical measures to prevent accidents at your workplace?

Do you have a safe system of work?

Do you follow correct, standard work procedures?

Have you identified the nature of any hazards and the attached level of risk?

Do you have enough experience and training to do the job safely?

Have you identified and discontinued any sub-standard work practices recently?

Are you physically fit and mentally alert?

Are your personal work standards high?

Is your mind "tuned in" to safety?

Is your equipment well maintained and safe?

COMMUNICATION

Yes No

Is your information accurate?

Is your timing right?

Is your message clear?

Are you sure that what you say is what others hear?

INCIDENT

An underground mine was evacuated after a fire in the engine compartment of a light vehicle proved difficult to extinguish. No one was injured.

The vehicle was left unattended with the engine running whilst a worksite was being inspected by the driver. On his return he observed flames coming from the engine compartment. Heat and flames prevented the bonnet from being lifted. An extinguisher discharged from under the vehicle controlled the fire.

CAUSE

Examination of the vehicle showed that the fire resulted from an ineffective engine earthing connection. Current normally carried by the connection had been diverted through the throttle linkage causing it to become hot. A non-metallic fuel line in contact with the linkage melted and fire was initiated when fuel sprayed onto the engine. Heat also caused the vehicle's battery to explode.

COMMENTS AND PREVENTATIVE ACTION

- ❶ There was prior evidence that the electrical system was faulty. The lights were not working correctly and the vehicle was difficult to start. Attention to these defects would have prevented the fire.
- ❷ Maintenance procedures should ensure that engine earthing connections are effective.
- ❸ Non-metallic fuel lines should be independently supported and not attached to or in contact with electrical wiring or metal cables.
- ❹ Caution is required when attempting to raise the bonnet of a vehicle that has an engine compartment fire as flashover may occur and cause injury

to persons in the area.

J M Torlach

STATE MINING ENGINEER

23 February 1993

**SAFETY
AWARENESS**
Saves Lives

HALF A LITRE IN HALF AN HOUR

FANTUS TESTING FOR HEAT STRESS

The Fantus test determines the chloride content of urine, and identifies those employees who may be pre-disposed to heat illness or heat exhaustion.

The simple test is performed at the beginning of shift before work actively starts.

Estimated sweat loss in an eight hour shift in hot conditions can be as much as 6 litres.

For more information contact

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WHERE THERE IS DOUBT— FIND OUT!

ACCIDENT ALERT

INCIDENT

During the operation of transferring quicklime from a bulk road tanker to a storage silo using compressed air, a hatch cover blew open and quicklime was blown over the operator and a wide area around the tanker.

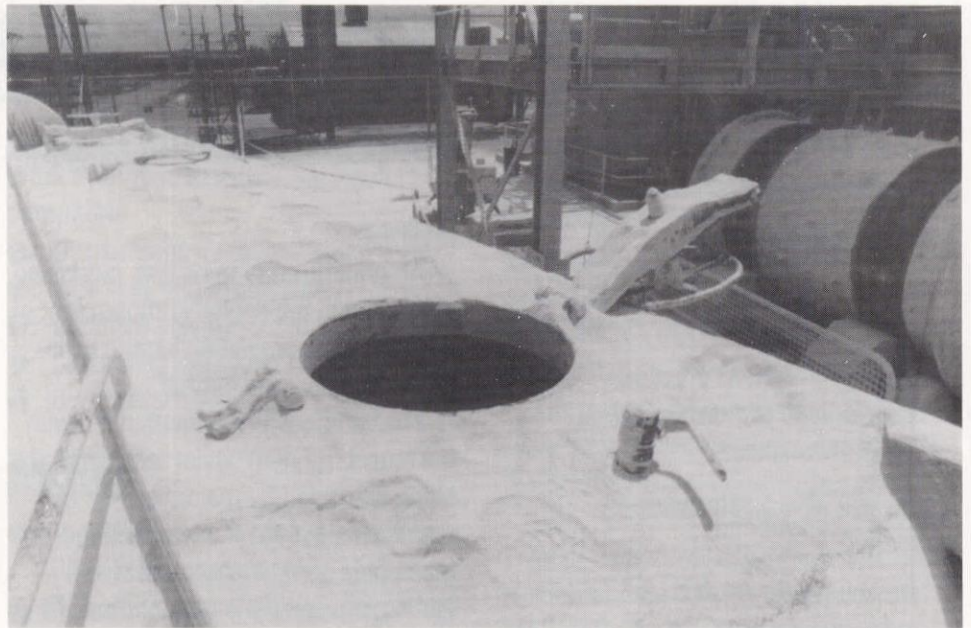
CAUSE

A two finger pawl that engaged on the hatch cover locking strong back failed while under pressure. The cover was then blown open.

RESULT

The hatch cover was thrown several meters away. A considerable quantity of quicklime was spread over a wide area of the plant.

This required a specialist clean up to remove the lime.



PREVENTATIVE ACTION.

- 1 Replace hatch cover locking with a improved design.
- 2 Regular inspections of hatch locking attachments using NDT at six monthly intervals.
- 3 Ensure that the locking pawl has fully engaged on the strong back when closing the hatch cover.
- 4 After loading the road tanker clean hatch cover locating ring and check hatch seal. (In this case the hatch was leaking and the operator tight ened the hatch locking screw. This could over-stress the locking pawl).



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